EXCLUSIVE CONTRIBUTIONS

Pseudo Dental Patents.

By W. Irving Thayer, M.D., D.D.S., Williamsburgh, Mass.

Truth comes out, sooner or later. That proved true in the so-called "Rubber Patent," and came home to Josiah Bacon—whom the writer knew for many years—with a vengeance. Deceit may flourish for many years, even more than a decade, but it is a long road that never has a turn in it.

On December 20, 1880, one, James E. Low, filed *under oath*, in the United States Patent Office, certain specifications, claiming to be the sole inventor of certain "Useful Improvements in Dentistry," ending in the two following claims:

1st Claim—"The herein described method of inserting and supporting artificial teeth, which consists in attaching said artificial teeth to continuous bands, fitted and cemented to the adjoining permanent teeth, whereby, said artificial teeth are supported by said permanent teeth, without dependence upon the gum beneath."

Will the reader please see if he can discover what is new in the above first claim, by reference further on?

2d Claim—"An artificial tooth cut away at the back, so as not to present any contact with the gum, except along its front lower edge, and supported by rigid attachment to one or more adjoining permanent teeth, substantially as, and for the purpose set forth."

Critically examine this second claim, and see if bridge work was not "*supported by rigid attachment to one or more adjoining permanent teeth,*" as far back as 1843? See Plate XVII., Fig. 13, as shown, which is reproduced by photography from a book in the writer's possession, which was printed in the English language, in Philadelphia, Pa., A. D., 1843, the editor of this journal having examined the same.

Please note the "Explanation of Plate XVII.," also reproduced by the same faithful art, and see "Fig. 13." It reads, "Six incorruptible teeth"—meaning porcelain teeth—"Mounted upon a plate secured in the mouth by two pivots."

EXPLANATION OF PLATE XVII.

FIGURE 1. The root of a tooth prepared to receive an artificial crown.

2. An artificial tooth with the pivot adjusted to it.

3. The half of a root, showing the manner in which it should be drilled for the reception of an artificial crown.

4. The half of a natural tooth viewed internally, representing the screw-tap to receive the pivot.

5. A pivot furnished with a screw at one end and slight notches at the other.

6. The half of a natural tooth seen posteriorly, in which is a pivot through which a pin passes.

7. A pivot screwed into a tooth.

8. A pivot to which is soldered a metallic heel.

9. An incorruptible tooth previous to being soldered to the pivot in figure 8.

10. The root of a tooth, its canal nearly destroyed.

11. A funnel or tube intended to partially fill up the root of figure 10.

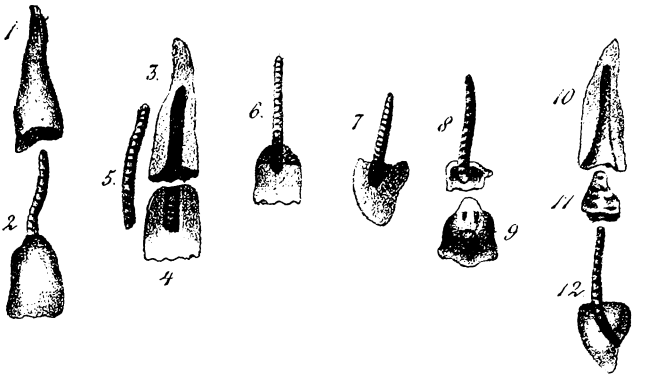
12. A natural tooth with a pivot attached previous to being adjusted to figure 10 by means of the tube figure 11.

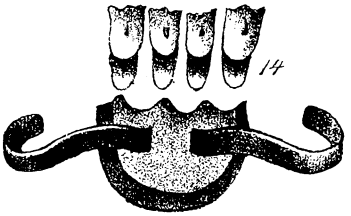
13. Six incorruptible teeth mounted upon a plate secured in the mouth by two pivots.

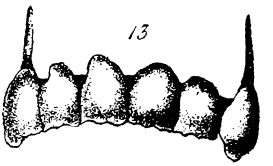
14. A piece of sea-horse tooth carved for the reception of several natural crowns.

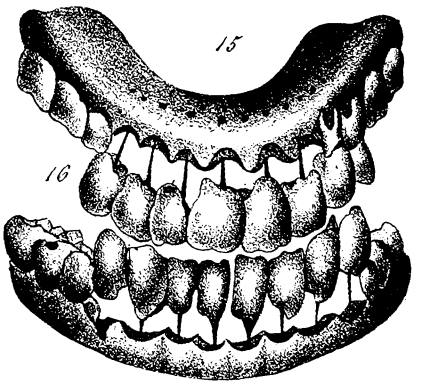
15. Superior and inferior dentures of sea-horse tooth, having sixteen natural anterior teeth adjusted to it.

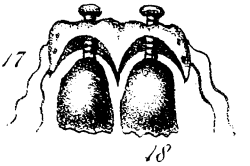
16. Sixteen natural teeth riveted and prepared for attachment as above.

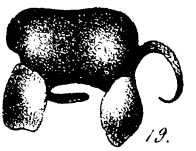


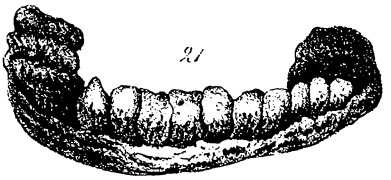


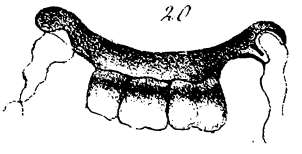












Lith. of Tho.s Sinclair Phila.

Does Fig. 13 show artificial teeth, "supported by rigid attachments, to one or more adjoining permanent"—natural—"teeth?"

If it does, then this exhibit acts as a "previous notice," to James E. Low, as it practically shows the same "rigid attachment," and, further included the "permanent attachment of artificial teeth, by securing them," any way you choose, "attached to adjoining teeth, *supported upon natural roots, without dependence upon gum beneath said artificial teeth!*" These emphasized quotations are from Low's specifications, direct from the Patent Office.

"Fig. 13" shows as clearly as daylight that these rigidly supported artificial teeth do not "present any contact with the gum, except along its (their) front lower (or upper) edge," any more than did Low's specious claim; and, indisputably presents the plain fact that *each "artificial tooth"* was *"cut away at the back."*

Refer to the "Explanation of Plate XVII.," this language will be seen, "mounted upon a plate." The author of the book does not mean "a plate," in the sense that is understood today; that is to say, a substance covering more or less of the oral soft tissues, but *a continuous backing*, as shown in Fig. 13. The author says on page 226, describing the process of soldering a backing to a plate tooth, "The surface of the gold plate"—the backing—"being already slightly riveted to the tooth, must be washed with borax . . . care must be taken that every part, where it is desired that the *solder* should take effect, should be touched by borax." Thus, we see that what today is called a "backing," he terms a "gold plate," just as he describes the continuous backing in gold bridge work, in his description of Fig. 13, "Mounted on a plate." He simply shows *a continuous gold backing* with none of the soft tissues covered in any manner, except, but by the cervical border of the teeth, just as Low claimed to do thirty-eight years after.

Let us now examine Low's pretensions a little further. In his first claim he demands this sole privilege, "which consists in attaching said artificial teeth to *continuous bands,* fitted and cemented to the adjoining permanent teeth."

On March 12, 1900, at 9:15 a. m., at No. 44 West Thirty-fifth street, New York, Dr. C. M. Richmond informed the writer that, "on December 25, 1877," he, the said Richmond, "in the City of San Francisco, California, *fitted a continuous band around a root* in the mouth of the Rev. Dr. Isaac H. Kallock. That is a matter of record in the United States Court." That fact antedates Low's "continuous band" just two years, eleven months and twenty-five days. Dr. Richmond continued, "Low came to my clinics in June, 1880, at Dr. Brophy's office, in Chicago, Ill., and he"—Low—"obtained his *first* information of a 'continuous band' by seeing me

make such at my clinic, for which he paid nothing. My so-called 'Richmond Crown' application for patent dates about August, 1880."

Summary; the plain facts are that Low did not invent the "continuous band." Low's supporting artificial teeth on piers—roots or teeth—was antedated by at least thirty-seven years, eleven months and twenty days, as we have shown.

The claims for royalty demanded by the International Tooth Crown Company is a demand for money, for which they do not render an equivalent. A case in point that has been bitterly fought over for some six years, commenced by A. A. Pope against W. S. Frazier & Co., of Aurora, Ill., whereby the plaintiff instituted proceedings for an injunction and damages. This was for infringement on pneumatic rubber tires, and was tried in the United States Circuit Court before Judge Grosscup, in Chicago. The judge decided in 1878 that the patent was *invalid* for *want of novelty,* and his decision has been sustained by the United States Supreme Court, at Washington, D. C.

The Supreme Court said: "It is a *bald aggregation of parts, old in the art, each part operating in the old* and *usual way, without any semblance of invention in the mechanical means* by which *a new, or useful result is brought about;* and, even if the combination were otherwise patentable, *the previous state of the art shows that it was not new to this patent.* Solid rubber and cushioned tires had been used long before, and were familiar to the public. Pneumatic tires had been used upon small wheels such as are called for by this patent."

The italics are the writer's emphasis to make the applicable points more clear. The above facts have been known for some time, but the writer has only lately come into possession of the said book and other facts, at no small expense of time and money. He respectfully begs to present them to the profession through this journal of wide circulation at the earliest possible moment.

In the light of the recent decision of the United States Supreme Court, the International Tooth Crown Company could have no legal standing upon their alleged "Bridge Patents," and any plaintiff could recover money paid to them, and also damages, if within the statute of limitation.

Donations to the Army Medical Museum.

(Continued from page 801.)

Since the last report the following donations to the Army Medical Museum have been received:

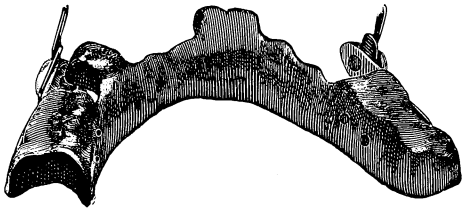


Fig. 75.

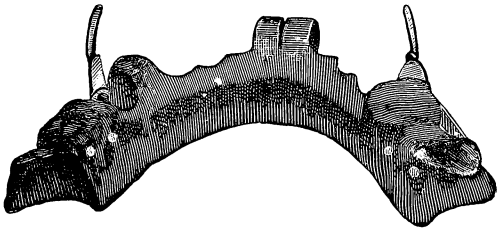


Fig. 76.

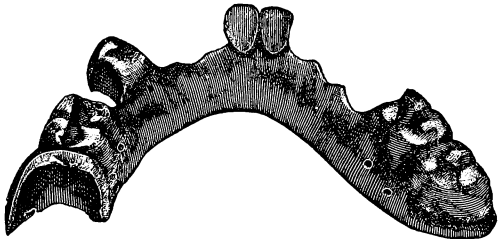


Fig. 77.

No. 138.
No. 139. **No. 140.**

Dr. James Gordon, St. Thomas, Danish West Indies, sends three lower sets carved from hippopotamus ivory. (Figs. 75, 76, 77.)

No. 141.

Also an upper set (Fig. 78) which has become broken. These teeth were obtained from a gentleman of the French Navy for whom Dr. Gordon made substitutes in the year 1864, and were made prior to that time in Paris.

No. 142. No. 143. Also, part of a lower set and an upper set carved from ivory obtained in 1866, and made prior to that time in Germany. (Figs. 79 and 80.)

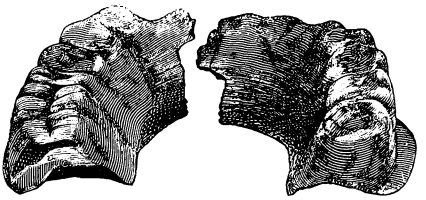


Fig. 78.

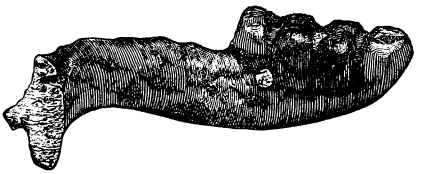


Fig. 79.

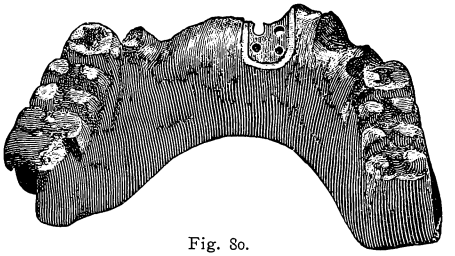


Fig. 80.

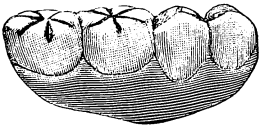


Fig. 81.

No. 144 Also a temporary bicuspid and lateral fused together.

No. 145. No. 146. Also, peculiarly curved roots of upper molar, and an exceedingly long upper molar with curved roots.

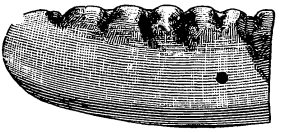


Fig. 82.

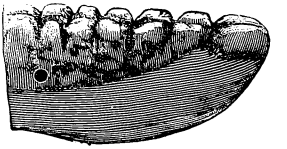


Fig. 83.

Dr. Arthur E. N. Lister, of Lincoln, England, makes the following donations:

No. 147. Specimen of carved ivory (Fig. 81) in which the gum parts have been colored pink.

No. 148. No. 149. Figs. 82 and 83, parts of lower denture carved from ivory. The doctor reports that this was originally a whole lower denture, which, however, has been sawn to pieces and the middle piece become lost.

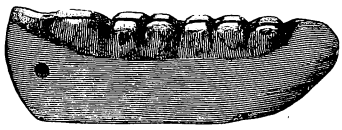


Fig. 84.

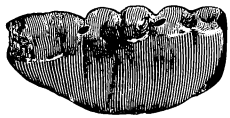


Fig. 85.

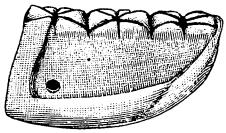


Fig. 86.

Fig. 87.

No. 150. Fig. 84, part of a lower denture, carved from ivory.

No. 151, No. 152, 153. Figs. 85, 86 and 87 are blocks of molars carved from ivory. From the presence of holes passing through the occlusal surfaces, the doctor believes that these were mounted on plates similarly to old-fashioned tube teeth.

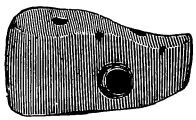


Fig. 88.

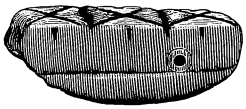


Fig. 89.

No. 154. A similar block of two molars carved from ivory.

No. 155. Seven specimens of small blocks of molars carved from white rubber, one, however, being made from pink rubber, such as are shown in Figs. 88 and 89. Although these are made from material which came in use long after ivory, the work appears to be much more crude, although, unquestionably, the smoothness of the occlusal surfaces, as seen in Fig. 88, is largely due to the wearing of the soft material in mastication, showing it to be entirely unfit for service as teeth.

Dr. George O. Webster, of Berlin, Germany, makes the following donations:

No. 156. A central incisor having an abnormally large foramen.

No. 157. Also, a bicuspid having three well defined roots.

No. 158. The roots of upper molar having four well defined prongs.

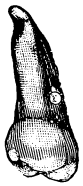


Fig. 90.

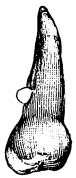


Fig. 91.

Fig. 92

Fig. 93.

Fig. 94.

No. 159. A superior molar in which the pulp chamber is seen to be occupied by numerous pulp stones.

No. 160, No. 161. Central and lateral incisors mounted together to show the lateral very much longer than the central.

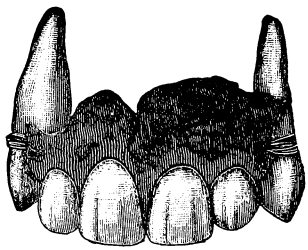


Fig. 95.

No. 162, 163. Figs. 90 and 91, bicuspids having nodule of pearls of enamel attached to the root.

No. 164. Fig. 92, a root showing completely calcified pulp.

No. 165. Dr. J. W. Egbert, of Madras, India, donates specimen of bridge work removed from a Mohammedan Nawab's mouth entire, on Nov. 28, 1899. The work was done by a Mohammedan goldsmith. The four incisors had been

lost by pyorrhea. Incisor crowns were cut off, and attached to the canines and to each other by gold wires, the gum being composed of wax. The teeth are badly stained as a result of chewing beetle nuts mixed with spices. (Fig. 95.)

No. 166. Fig. 93, a single piece of removable bridge work worn by an Eurasian, removed December, 1899. The tooth is carved from a tooth brush handle and was fastened to German silver, the whole being made for the equivalent of seventy-eight cents.

No. 167. Also, five specimens of teeth encrusted with tartar and stained almost black from chewing the beetle nut.

No. 168, 169. Dr. W. A. Allen, of Billings, Montana, presents enormous models of Indian jaws, the illustrations of which appear in connection with his article entitled, "Indians Immune to Pyorrhea."

No. 170. Fig. 94 is of a supernumerary having the most perfectly formed conical crown imaginable; unfortunately, the name of the donor has become separated from the specimen. Will the gentleman kindly communicate, that he may receive credit?

Dr. J. Austin Bucknall donates a set of photographs and models of his interesting case reported and illustrated in our January issue, page 8.

Indians Immune to Pyorrhea.

By W. A. ALLEN, D.D.S., Billings, Mont.

I have been for years searching for some race of beings who are not afflicted with pyorrhea, and I think I may say that I have at last found a race of Indians who, in their savage state, were free from this disease.

Fig. 1.

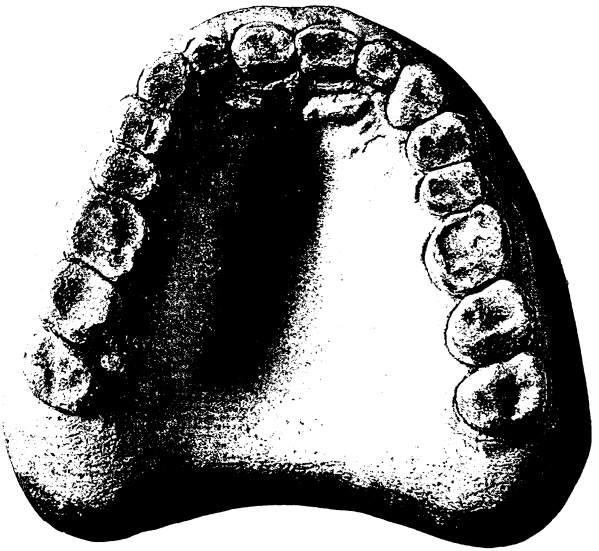


Fig. 2.

I have examined in the last twenty-one years hundreds of these Indians, and have yet to find one with pyorrhea alveolaris. I have found it in negroes and in the mound builders, but not so in the Crow Indian

tribe, as the Crows were almost exclusively flesh eaters, their diet being buffalo, elk, mountain sheep, deer and antelope.

I present a model (Figs. 1 and 2) which I have obtained from Iron Bull Crow chief—at the age of seventy years. This is an edge to edge bite and is not common among this tribe; there is not a trace of decay in his mouth—upper or lower. I think you will say that it is a fair specimen as to size. All the teeth have ample room in the jaw, and the teeth are so closely associated as not to allow any food lodging places between them.

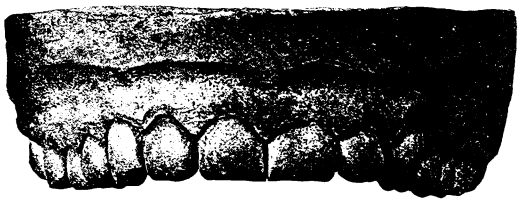


Fig. 3.

The other model (Fig. 3) is from a Cheyenne brave, seventeen years of age, and a savage, as near as can be at this date. He informed me that his diet is nearly all meat. There was no decay in his teeth, and the occlusion was that of a white with the six front over biting, as in ordinary cases of a perfect set. He seemed very proud of his teeth.

So we have here two tribes of Indians who, in their savage lives, had no pyorrhea. Now let us try and find where in the process of civilization this disease manifests itself.

I am making a series of examinations in the Indian schools to see and note the decay; also the diminishing of the jaw which, in some cases, is very manifest.

Has Dental Legislation Cured Quackery?

By D. W. Barker, D.D.S., Brooklyn, N. Y

The Odontological Society listened to and discussed a paper with this title by Dr. N. W. Kingsley on Tuesday evening, Feb. 20. The trend of the discussion, to which Dr. Kingsley assented, was that while dental legislation had not cured quackery, still there was hope that it might be much to ameliorate the evil at some indefinite time in the future.

If it will not be presumptuous, permit me to dissent from the views there expressed and the conclusions at which they arrived. Quackery

has not been cured by legislation any more than it was caused by it. It is idle to discuss the subject from an educational standpoint, as it has as little to do with it as it has with religion or politics; therefore it has not nor can ever be cured by legislation. The evil is deep rooted in human nature and dates back to the origin of the race. It would be easy to trace it backward through the quack doctor, through astrology, witchcraft and fetichism to the medicine man of the savage. Every race and every tribe of the sons of men know him. But to confine the discussion to the dental quack of today, I remark that he existed before the passage of the dental law of this state or any other, and he exists today in greater numbers than at any time before. The quack of today is an *edition de luxe* of the quack of twenty years ago. It seems probable that the framers of our dental law designed to abate or quite abolish quackery. If so the quack with thumb on nose may twiddle his fingers in the face of the profession and derisively jeer, "never touched me." Of course it did not; the only thing the law accomplished is it gave an educated quack for an uneducated one, that is all. It is the same old quack with all his vices that existed before the passage of the dental law twenty-one years ago, only he is respectable now and appreciates the fact at its full market value. But some may say, "that is a step in advance, anyway." Not so. Just as a criminal's capacity for crime is increased by education, so is the educated quack worse than the ignorant one. To just this extent therefore dental legislation has increased the evil. Here is a question I should like to have answered by the Law Committee of the New York State Dental Society: "Could you have foreseen the present development of quackery would you have asked the Legislature to enact the law of 1879?"

The question of quackery is one of morals, not of education. Mr. Beecher once said, when speaking of intemperance, that it is as impossible to legislate morality as religion into a man; and there you have it. Ethically considered the quack is a man who cares nothing for the ethics of his profession, but is willing to debauch it and defile its good name for gain. He bears the same relation to the profession as the despoiler of women's virtue does to society. As long as such men exist, quackery will exist, so there will probably be quacks to the end of the chapter. I would not be understood as decrying the advancement and upbuilding of dental education; it has accomplished great things for the profession. *For the profession,* yes! But not for the quack.

I do not suppose Dr. Perry intended to be humorous (was it not Dr. Perry?) but nevertheless he was positively funny. He thought the solution of the problem was to get in closer touch with the medical profession—become a part of it, I suppose. I wonder if he ever reads the advertisements in the daily papers, or sees the drug stores filled with quack

medicines, not one of which could pay its expenses on its prescription trade. There is a wholesale dealer in New York who advertises, "Everything for a drug store except drugs." That is a fine ideal for the dental profession to strive for! If there is a profession worse quack ridden than the dental it is the medical, and there are others. At the Law Club dinner December 13, 1897, Judge Patterson said, "The legal profession has degenerated; it is no longer a profession but a mere trade." In view of these facts is it reasonable to suppose if these older and more powerful professions cannot rid themselves of quackery that we can do so? Rather let us not monkey with the buzz saw of legislation until the medical profession can show some better success than is now apparent.

Chloretone in Dentistry.

AUGUSTINE J. WALSH, D.D.S., New York.

Among the more recent advances in dental anesthesia is the preparation of Parke, Davis & Co., to which the name of chloretone has been given. It is a trichlor-tertiary-butyl alcohol formed from chloroform and acetone by the addition of caustic potash. After processes of chemical manufacture are completed it appears as acicular crystals with a strong flavor of camphor. It is represented by the formula:

$$CCl_3—\overset{CH_3}{\underset{CH_3}{C}}—OH$$

This material is highly soluble in chloroform and in acetone, in alcohol and in glacial acetic acid. In water it forms a solution of one per cent, which is the anesthetic equivalent of a four per cent cocaine solution, with this advantage, that the amount of the chloretone solution which may be employed is practically without limit. The aqueous solution of one per cent seemed to me after my first experiments a little too weak for the prompt action which our dental patients expect from us. Believing in the great advantages of this product, I made it my purpose to find a solution which would better meet dental needs. After several fruitful experiments I found reason to congratulate myself on this formula:

Chloretone, ½ drachm.
Etheri sulph., 2 drachms.
Water q. s. @ 1 oz.

This took up all the chloretone readily. After standing, the solution, which is non-miscible in theory, divided in the container into a floating

solution of chloretone and ether, and a solution of chloretone and water; but by reason of the admixture of the ether there is reason to believe that the aqueous solution was in possession of more chloretone than would be the case without the presence of the ether. I conducted my experiments on the two parts of the solution independently, drawing from the surface or from the deeper solution as needed.

The floating ethereal solution was used in three dozen cases on sensitive dentine with marked success. It enabled me to drill out cavities with greater ease to the patient and caused but little pain as compared to drilling without chloretone. Although complete anesthesia was not obtained it was so successful as to command chloretone in this branch of dentistry, and in my judgment nothing better could be used. Applied topically to the gums previous to adjusting crowns and bridges the ethereal solution was in my experience most successful, making the operations perfectly painless and causing no distress to the patient. This proved uniform in its action in a dozen cases. On topical application to the gums the ether evaporated and left a close coating of chloretone covering the entire surface of the parts operated upon and resultant anesthesia.

The aqueous solution under the ether layer was injected into the gums of a woman from whom nine teeth were extracted. The operation was accomplished with little pain and was more safe than when cocaine is used.

The latter often produces severe and dangerous depression of the heart. This patient was highly sensitive, weak and nervous, and was certainly not a subject on whom to use cocaine without fear of trouble.

The beauty of extracting teeth with chloretone as the anesthetic is that the work can be done quite as successfully and with none of the latent fear which lingers in the mind of the operator who uses cocaine, for chloretone does not depress the heart and can consequently be used fearlessly.

To this brief paper I append a few typical case reports.

December 14, 1899.—Using ether and water solution, extracted a large first permanent molar from a child without pain.

January 14, 1900.—Using a dilute alcohol solution, extracted a tooth from a woman without pain.

January 27.—Extracted a tooth from a man with a solution of chloretone in undiluted alcohol; the injection produced pain, which I attribute to the burning of the alcohol, but the extraction of the tooth itself was painless.

Europhen in Dental Surgery; Its Special Value as a Substitute for Iodoform.

By K. J. Schumann, D.D.S., Athens, Tenn.

In writing of this new dressing, I wish to give simply my own observation and history of a few cases to substantiate my claim that europhen is superior to iodoform.

First, I would say that, as a root canal dressing, it can not be surpassed. The method I employ has given by far the most satisfactory results.

Europhen in Root Canals.

Apply rubber dam. Clean the canals with suitable broaches, follow with canal drills, wash out the debris thoroughly. After cleaning the canals with instruments, take one or two drops of carbolic acid crystals, pour out upon cement slab, take a few grains of europhen and rub into carbolic acid until you have thick paste. Wrap a smooth, fine broach with a few fibers of absorbent cotton; pass this into the paste of carbolic acid and europhen, introduce it into root canal and by a gently pumping motion fill the canals full of the paste. After having assured yourself that the canals are full, light the alcohol lamp and pass a smooth broach through the flame until red hot, introduce it quickly into the canals, and repeat this until you cease to hear the paste "fry." Fill the canals to the apex with gutta percha points previously warmed and rolled in europhen. Fill cavity in usual manner.

I claim for this method rapidity, thorough asepsis and a sweet smelling canal. Iodoform may be used in the same manner, but the odor is horrible, and it will not work so well. I have tried both. The europhen is in many ways better. In rubbing it into carbolic acid, a certain per cent of it resolves itself into iodine which, with its other chemical constituents renders it a valuable paste.

I have been working with europhen now for about two years, closely observing its action, weighing its value as an antiseptic dressing and its ease of application. It is extremely light, palpable and almost entirely free from obnoxious odor. This last feature is certainly desirable in dental surgery. In external fistula of the cheek, etc., it can be used to a great advantage. Below I give case of alveolar abscess with complications.

Case 1. Alveolar Abscess.

Miss M., aged eighteen, presented with aching lower molar so badly broken down, I advised extraction. She refused the operation, leaving office with-

out treatment. Saw nothing of patient for period of six months, when she again called with abscess of alveoli involving cheek and opening beneath superior maxillary bone, with considerable ulceration and disintegration about point of egress. Extracted roots of molar, washed sinus through cheek with protargol ten per cent, packed external sinus with gauze dusted with europhen. Repeated protargol ten per cent for ten days, dusting external wound with europhen, by which time patient was dismissed cured.

Case 2. Boy six years. Hare lip operation. Europhen as dressing with dismissal in ten days.

Case 3. Mr. G., aged twenty-six, abscess of antrum with rhinitis. Treated abscess through second bicuspid by four per cent protargol solution. After a few days symptoms subsided somewhat. Began with

Europhen ..... ℥ vii.
Boroglyceride ..... ℥ j. M.

Passed application saturated with above into nose, swabbing the sniderian membrame twice a day. Two weeks under treatment with cure.

Case 4. Mrs. J., aged nineteen. Had extracted twelfth year molar. Resulted in "dry socket." Syringed with protargol ten per cent, afterwards packed with gauze dusted with europhen. Complete healing of pocket in two weeks.

The above four cases were under treatment by other dentists before coming to me, with exception of Case No. 2. Case No. 1 had been treated by several physicians with negative results.

Below I will give two or three cases of europhen as root canal dressing.

Case 5. Canal Treatment. Mrs. W., aged forty-six. Right upper second bicuspid devitalized. Had been aching for weeks. Patient had been under dentist who treated her regularly for thirty days. No benefit. She came to my office and requested an extraction, which I declined. She finally consented to allow me to treat the case. I passed fine broach through roots, clearing away everything I could find. Pumped canals full of europhen, and repeated same treatment for two days. Third day, filled canals with europhen paste, passed red hot broach through canals, filled roots, painted the gum over the tooth with tr. iodine—tr. aconite rad. āā; filled cavity and have had no further trouble.

Case 6. Miss L., aged twenty-five, came with aching upper right bicuspid. Had been under dentist here for a year, who had been treating this one tooth eight months. I examined tooth, found no pulp in two canals; of course suspecting no more than two canals in bicuspid, began this treatment:

Europhen carbolic acid paste with hot broach as described. No result for a week. Finally, concluding from symptoms that there were pulp fibers somewhere, I began enlarging root canals with Gates drills, when suddenly I ran into a third canal with a live pulp one-eighth of an inch in length. Removed this, commenced former treatment, and patient recovered use of tooth.

I have the records of sixty-one cases of europhen used as root canal dressing without any failures. Only in two cases have I been compelled to re-treat the canals.

Europhen can be readily made into paste with creosote, carbolic acid, eucalyptol, boro-glyceride, etc. In pyorrhea, I first remove serumnal calculi with suitable instruments, wash pockets with twenty per cent protargol solution, followed by packing the pockets full of europhen. Results are immediate. In apthous stomatitis, wash mouth with protargol ten per cent, and if corners of mouth are involved in ulceration, dust with europhen.

My experience with europhen justifies every claim I make for it. One great advantage which europhen has over other powder dressings, which is peculiarly adapted to dental surgery, is that if from any cause whatever moisture should enter through the apical foramen, the europhen coming in contact with the moisture, immediately gives a pasty solution of iodine which, with its other powerful germicidal elements, combines to make small the chances for alveolar abscess. I believe that if thorough investigation is directed upon europhen, it will become the root dressing par excellence, from its decided positive results, its ease of manipulation, its comparative freedom from odor, and its general adaptability. Protargol as its co-operator will be readily appreciated, if once tested.

How to Prevent the Shrinkage of Rubber During Vulcanization.

By Dr. JAMES GORDON, St. Thomas, Danish West Indies.

The introduction of rubber as a dental base was hailed by the profession as a simple and economical system of Prosthodontia, and as such still holds its place. The procedure seemed satisfactory as regards plates without vacuum chambers, such as full lower dentures and partial sets retained by clasps or in interdental spaces; but experts in gold plates, accustomed to the accuracy of their fit and assurance of the suction of the chamber before soldering on the teeth, always found something lacking in the adaptability of rubber, especially in those cases which were expected to depend upon the vacuum chamber, such as partial sets and those full ones which require the adjustment of the front teeth directly upon the alveolar border; also those where only bicuspids and molars are mounted.

This want of assured success is caused by the irregular shrinkage of the material during vulcanization and springing while cooling. Many ways have been tried, and are still in use to obtain adaptability; as, for instance, the making of a groove on the mould around the chamber, thus insuring a higher ridge than the surrounding surface. This, while not always causing suction, is sure to produce irritation of the palate. Deep chambers have also been used, culminating in the same result, and yet more irritating than either is the small plate with a large area of chamber, which is expected to imbed itself in the palate for adaptation.

I take pleasure to mention here that the only device which I have found practical is that of Dr. Haskell's for the construction of full upper sets without a defined chamber, as explained in his little book on me-

chanical dentistry, "Student's Manual," but this can only be depended upon when no further changes are expected in the alveolar border.

Finding that the various devices were of no material benefit, as they were directed with a view to induce suction regardless of the shrinkage of the plate, I turned my attention to the prime cause, viz., the shrinkage of the rubber. During experimentation in my laboratory, I found that rubber while vulcanizing, when confined in a given space, expands and flows. Hence I believe that gates, being made for surplus rubber, and the bringing of the halves of the flask entirely together, causes a larger flow and a lesser quantity of rubber to remain *in situ* than that which is required to insure success. As these gates are necessary to prevent destructive pressure, how then to keep the rubber in place?

It seemed that the only way was to be able to handle the flask while in the vulcanizer. With this object in view, I set about constructing an apparatus to be fitted to the cover of my vulcanizer, when I suddenly found that the problem was easily solved by keeping the halves of the flask slightly apart and causing them to close automatically during vulcanization, at the period required for success.

This I effected by interposing between the halves of a Starr reversible flask, near the bolts, three disks of alloy fusible at three hundred and twenty degrees, say eighty-five pounds pressure as indicated by the S. S. White steam gauge. These disks may vary from one-sixty-fourth to one-sixteenth of an inch in thickness, according to the mass of rubber to be vulcanized. They will begin to crush at three hundred degrees, or seventy pounds pressure. I find conclusively that this is really the point at which the rubber begins to harden and has the apparent consistency of vulcanized velum rubber. Here the advantage is derived, for by fully compressing the rubber at a moment when there is no possibility of much flow, the true quantity for the case is kept *in situ*.

To effect this it is necessary to have the flask either in a Donham spring press, or fastened by bolts with springs under the nuts, such as are sold by Messrs. Lee S. Smith & Son.

I must explain that the case can be packed as usual, then pried open for the insertion of the disks, or it may be overpacked to include the thickness of the disks used and the result will be the same, except that the latter method will cause some waste of rubber; yet I must specially point out that bulky lower sets and some upper ones should always be packed inclusive of the thickness of the disks. Among my experiments was the vulcanization of a one and one-fourth-inch cube, composed half of S. S. White gum No. 1 and half of bow spring rubber, resulting in a surface free from honeycomb, thus proving that in this way thick masses may be properly vulcanized within the same time as required for ordinary ones.

Among the many advantages gained may be mentioned the following:

The mounting of teeth directly over the alveolar ridge yet insuring perfect adaptability of the plate and no rocking over the hard palate; the boon to those patients who have healthy roots and cannot afford crowns or bridge work; teeth adjusted to roots, with a rubber base vulcanized as explained above, will always retain their correct positions; the preventing of granulations and angry looking irritation of the palate caused by the efforts of patients constantly trying to exhaust the air from under chambers of ill fitting plates.

A Perfect Backing.

By Dr. D. A. PEOPLES, Plano, Texas.

From the time when I was first taught to "back up" porcelain teeth for the purpose of soldering them to plates and bands, I have longed for some plan by which the fluids of the mouth (and, in some cases I have seen, more than fluids) could be excluded from the space between the backing and the porcelain facing.

I do not remember having seen anything in our journals or other publications which has even made a pretence of being such a "perfect" backing, the nearest approach to it being the various methods of swaging one that will closely fit the facing. Then, too, I have in common with most dentists of much experience, seen the facings which we placed with such care crush off under some great (?) strain, because of their frailty, thus marring our work and giving us a difficult piece of repair.

To overcome this imperfection and weakness I have devised the following method, which can be readily followed by any of the profession accustomed to metal working who have a porcelain furnace large enough to take in one or more teeth, and who know how to use it.

Cut a piece of thirty-six gauge platinum somewhat longer than the tooth to be backed usually calls for. After punching the pin holes, bend back the upper and lower edges of the backing in a *sharp* angle, using the edge of a sharp blade of a pocket knife or any such instrument, at the same time making it assume a slightly convex shape.

When you put it in place on the tooth, you will observe that it does not go all the way to either the biting or gingival edge. Now fill in with

porcelain body between the tooth and backing and bake in your furnace, being careful that none of the porcelain body is left on the outside of the platinum, but that it is filled in solidly between the facing and platinum, giving it a second or even a third baking if necessary.

You now have a tooth backed with platinum which is much thicker at the pins than as ordinarily prepared, incomparably stronger in resisting the strains which so often mar our work (as it does not depend upon the pins alone to keep the facing in place, but all is solidly fused together), and *absolutely excludes all fluids.*

You may add to these points of excellence the freedom of the biting edge from the "line" of gold, which is so often objected to by the æsthetic portion of the profession or their patients, and freedom from the danger of melting down the backing in the future solderings, and yet the platinum does not show through and darken the color of the facing.

With this perfectly backed tooth you now proceed, attaching it to plate, or band, or bridge, as you desire. Of course you will be careful to not allow the flux to get on the exposed porcelain between the edge of the backing and the biting edge of the tooth, but will carefully cover with the investing material, else you will be likely to crack it in soldering. If you should wish to grind away any of the gingival edge, it would be better to not grind far enough to remove the "angle" of the platinum backing. Nor is it necessary to have a flat back tooth or facing, as the plain (or a gum, if you want it) rubber one can be used just as readily.

Sliding Cover for Tube in the Treatment of the Antrum. Flame-Shaped Drill with Short, Knife-Like Point.

By Hofzahnarzt Dr. Eugene Wunsche, Dresden, Germany.

In the frequently long and tedious treatment of the antrum, we generally lack a simple and convenient cover for the opening made by the operation.

For a long time I have been using for this opening a flame shaped drill, with a short, knife-like point. The little chisel at the extreme point cuts readily through the bone, and the fine blades of the fine flame-like drill head work smoothly, without causing great concussions.

Access to the antrum having been obtained, an impression is taken with gutta percha, after which we make a twenty-two K. gold tube with

a diameter of 0.6 mm. The tube is fitted on and an impression taken over it in order to get the necessary length and exact position.

The sliding cover is made in the following manner. A piece of gold plate 0.25 mm. thick and one cm. square, the four sides of which are turned up 1. mm., the four corners soldered together and a hole made corresponding to the tube. On the side where the slide is to be introduced, an opening is filed for a suitable plate upon which, after being inserted, a little projection is soldered in the middle of the end inside the traverse. The other end is bent up at a right angle 1. mm. to furnish a good hold to the finger nail when the slide is to be opened. This device is soldered to the tube, and the latter either vulcanized into a small prosthetic piece or soldered to a small piece with two clamps, according to the exigencies of the case.

The patient can open the slide easily and introduce a pipe fitting into the tube, and connected with the rubber tube of a syringe, or, better still, an irrigator (atomizer) for a slight rinsing.

The slide works easily and conveniently, and the apparatus prevents irritation of the wound. The cover itself is clean and tight. The use of a convenient and well fitting cover for the antrum. preventing as much as possible an irritation of the wound, contributes greatly to a speedy cure.

Hyperesthesia of the Tongue From Contact With the Mucous Membrane of the Jaw.

By Dr. M. Gonsalves, Lisbon, Portugal.

Two years ago, a gentleman, professor at the University of Coimbra, consulted me by the advice of his physician about a very severe pain near the first upper left molar. The pain, as he stated, started from that tooth, radiating to the eye and head as an electric flash, whenever he touched that tooth with the tongue, and remained for a long time on the corresponding side of this organ, running from the point back to the root of the tongue and tonsils. The slightest motion of the tongue touching the tooth would provoke the pain, so that he could not speak and was obliged to give up his lectures.

The tooth was carious and the pulp dead, but the margin of the cavity did not interfere with the tongue, nor was it irritated on the part facing the tooth; no periosteal inflammation; no soreness to percussion.

I seized the point of the tongue with a napkin and drew it out as far as possible. This revealed a series of congested papillæ, very hard, and of a deep violet color on the left side of the glottis. Between them, running from back, forward, there was a kind of a crevice or deep cut with ulcerated granulations on the margins.

My first impression was that I was in presence of a cancer, though the odor exhaled was not characteristic. I told the patient I wanted to see his physician, whom he brought the next day. I showed him what I had discovered. The doctor seemed to be surprised, and his impression was the same as mine. The next day we had a consultation with three doctors. They agreed it might be cancer, but it was not decided. The patient had never had syphilis, to which the ulceration might have been attributed.

In regard to the tooth, it was decided that it must be removed. That was done with no consequent relief to the patient. The second bicuspid and all molars had been extracted long before, so there was no tooth to interfere with the tongue on that side. Still, when the tongue touched the gum about the first molar region, a violent pain of equal character was excited. The patient went home and continued treatment under the care of the three doctors, all professors of the University.

I knew, later on, that by the use of local and internal medicines, the patient had recovered from the ulceration at the root of the tongue, but the hyperesthesia continued growing more and more intense until he was in a desperate condition. The doctors decided upon an operation, and removed the alveolar ridge from the first bicuspid back to the tuberosity with no success. In short, since then, they have tried a lot of drugs, electricity, ointments, baths, etc., etc., with no better result.

The patient, by his own experience, found that if the part be protected he was relieved, and used a piece of thick paper over the gum which remained in place when moistened with saliva. While the paper was there he could speak without disturbance.

This suggested the idea of protecting the parts with a plate. He went to a dentist who took an impression of the mouth, and made a rubber plate covering the hard palate and alveolar ridge, without teeth and smoothly polished. Since then, about three months ago, all suffering has ceased. The patient has resumed his lectures and he speaks about two hours three days in the week, without interruption.

I find this case very interesting and very singular, as I have never met with one similar in my practice, and for this reason I will feel very grateful for opinions about it, especially in regard to etiology.

Partial Necrosis of the Superior Maxilla—Treatment and Cure.

By A. W. MONTSANTO, D.D.S., Quezaltenango, Guatemala, C. A.

On the first day of February, 1899, I was consulted by Mr. L——, a farmer, in my office, about a chronic inflammation of the mouth, which, after having diagnosed the case, I qualified as gingivitis, localized between the superior right central incisor and the superior left cuspid, inclusive.

I found the gums in this place much swollen and of a dark red color, and around the gingival margin of the incisors was accumulated a purulent liquid of a pale yellow color, which increased much more on squeezing the gums above the roots of the incisors. I also found the two incisors, central and lateral, so loose that they could be extracted with only the fingers or without the aid of the forceps.

After having diagnosed the case, I at once thought an operation would be indispensable. The patient became alarmed, because being already advanced in years (between forty and forty-five years), he had never suffered any surgical operations of any kind.

The following is quoted from Harris's Principles and Practice of Dentistry, page 9306:

"The alveolar processes, as well as other osseous structures, are liable to necrosis or loss of vitality. When their connection with the periosteum—the source from whence they derive their nourishment and vitality—is destroyed, death follows as a necessary consequence. The loss of vitality may be confined to a single tooth, but more frequently it extends to several, and sometimes to the alveolar border, occasionally including a part or the whole of the jaw.

"The immediate cause of necrosis is the death of the periosteum occasioned by inflammation. The cause of this, as has already been shown, is, in a large majority of cases, dental irritation. Necrosis of the alveolar process occurs very frequently while the system is under the influence of mercurial medicines, and during bilious or inflammatory fevers, and certain other constitutional diseases, as syphilis, smallpox, etc. It may also result from mechanical injuries and the devitalizing effects of such agents as arsenious acid and chloride of zinc, when applied to destroy pulps of teeth, and to obtund the sensibility of dentine, etc., etc.

"Necrosis of the bones of the jaws may also result from exposure to the fumes of phosphorus, as in the manufacture of matches, for example."

Treatment, First Day. I extracted the two loose incisors and found both roots entirely free from caries. I at once syringed cavities with a two per cent solution of carbolic acid, prescribing at the same time as a mouth wash a five per cent solution of boric acid, indicating to my patient that he should return within three days.

Fourth Day. I found a continuous suppuration of the alveolar cavities, and at the buccal and palatine surfaces, the gums and rest of mucous membrane much inflamed and spongy, which confirmed more correctly my diagnosis of necrosis of the maxillary bone. I informed my patient of the serious state which the case involved, advising him that he should have an operation performed at once.

Sixth Day. My patient came determined to have the operation performed, and would by no means consent to taking chloroform. Therefore, I applied a hypodermic injection of cocaine, two per cent, and with the lancet made two lateral incisions from the right central incisor up to the left canine fossa, when that portion of the bone already destroyed by the process of exfoliation became so loose that it hung independently, and with another vertical incision, this portion at once separated itself and fell, leaving an enormous cavity.

I immediately applied an injection of pyrozone, three per cent, as an antiseptic wash, and cauterized with nitrate of silver the borders remaining infected by the process of exfoliation, and used a one per cent solution of permanganate of potash as a disinfectant wash; the disease had already advanced so rapidly that I found the nasal crest of the maxillary bone completely infected.

From the sixth day I continued treating my patient daily, and when the case demanded more cauterizations I applied nitrate of silver, alternating the permanganate washes with solutions of boric acid, five per cent, which treatment I continued for a space of two weeks, thus trying to avoid the extraction of the remaining incisors. The inflammation continued to increase around the left margin, until I found the cuspid on this side considerably loose; this being the case, I explained to my patient that, owing to such symptoms, it would be necessary to extract the cuspid and first bicuspid without mentioning the other molars, as they had been lacking on this side of the mouth.

During this period I advised my patient strictly that he should be on a diet, taking now and then mild cathartics. At the end of three weeks I had completely cured the left side as far as the crest of the maxillary bone (or the inferior border of the nasal bone), and for the purpose of promoting healthy granulations, I applied a five per cent solution of sulphate of zinc and glycerine; but there were still remaining on the right the other three incisors, and also lacking on this side of the jaw the bicuspids and molars.

My patient still complained of having slight pains on this side, and on changing the dressings in order to disinfect the cavity, I noted by means of the mouth mirror, a purulent matter which began oozing from the side indicated. Indeed, the symptoms which my patient observed, and which I at once investigated, revealed to me the necessity of extracting the other three incisors in order to effect a radical cure of this disease, for at this period they had become involved.

Having proceeded with the extraction of the other three incisors, I was obliged to continue my former treatment, cauterizing with nitrate of

silver, chromic acid, applying dressings with compound tincture of iodine, accompanied by washes of permanganate of potash and diluted carbolic acid, and ultimately a five per cent solution of boric acid with sulphate of zinc and glycerine.

At the end of six weeks I had almost concluded this difficult treatment with a most splendid result. Two weeks after (making a term of two months from beginning of treatment), my client brought me a small piece of bone which he discovered hanging from the roof of the mouth; this fragment measuring about one-half inch in diameter corresponds exactly with that portion of the palatal bones that includes the anterior palatine canal and border of alveolar process which corresponds with the two superior central incisors; after having taken away this portion of palatine bone, the entire maxilla had freed itself from all dead tissues and the cavity which remained as a result of the operation began to heal rapidly.

I immediately took an impression in order to vulcanize a rubber plug for the cavity; and after having used this plug about a week I took an impression in order to accustom my patient to the use of a temporary plate.

At the end of seven weeks my patient was suddenly called away to attend to some important business on a farm, and after a space of five weeks more I had the pleasure of seeing him walk into my office enjoying good health and the condition of the mouth entirely well. I then took another impression and made him a permanent full upper plate.

In this case the necrosis was the result of a fracture of the maxilla, which was caused by a blow received by patient, who had ignored it for one year.

A Wooden Peg in the Antrum.

By Dr. R. B. WARE, Shelby, N. C.

Mr. R——, sixty years old, came to my office with an engorged antrum of Highmore, with the following interesting history:

At the close of the Civil War he had been suffering with toothache in the superior first molar and went to a surgeon, who removed the tooth with an abscess clinging to one of the roots.

Only gaining temporary relief from this, he suffered for fifteen years with the characteristic pains and discharges of a diseased antrum. Having lost all of the posterior teeth on the side of the pain, he finally went to a dentist and allowed him to open into the antrum. He did so, washed it

out with phenol sodique, and sent his patient home armed with a syringe, a bottle of phenol sodique and a wooden peg in the orifice which he had bored into the antrum.

All went well until one day the patient inadvertently closed his jaws in such a way that it forced the peg into the antrum. The peg was about three-fourths of an inch long and about one-half the size of an ordinary lead pencil. He sought at once his dentist, who told him he could do nothing for him. The patient sorrowfully returned home and suffered, if possible, more intensely than ever, until one day about seven or eight years afterwards he blew the peg through his nose all honeycombed with corruption.

Still he continued to suffer, of course, and the discharge came regularly, much of it running down his throat while asleep, slowly but surely poisoning him and causing other complications to set in. When he came to me he had catarrh very badly, and had been operated on unsuccessfully for hydrocele. When he came to me for treatment it had been eight or ten years since the stick had been expelled.

I at once opened into the antrum, and washed it twice a day with tepid salt water, or boracic acid, followed at first with dilute carbolic acid, and later by hydrogen peroxide. As the patient lived in the country, I allowed him to return home in about a week to treat himself. Before he left the bone had almost cleaned off. In about six weeks all necrosed spiculæ of bone had ceased to be washed out, and there was no longer any pus or bad odor. The treatment was discontinued and the opening closed in a few days. I saw the patient about six months afterward, when he told me that he was sound and well so far as his jaw was concerned, and was now able to work, which he had not been able to do to any extent in many years. He looked like a new man. It has now been almost a year since he first came, and he remains cured.

Unification of Dental Laws.

By W. A. White, D.D.S., Phelps, N. Y.

Read before the Eighth District Dental Society, February, 1900.

The honor which you have bestowed in inviting me to be your guest this evening is hardly merited by any personal work or achievement, but it impresses me with the feeling that a bond of good-will and fellowship exists, which prompted the recognition, and which should be encouraged and promulgated with that spirit of professional benevolence, and ethical tendencies, which lead to the upbuilding and broadening of both our social and professional lives, and in thus coming together we are able to exchange ideas and views, which will give added mental wealth to our store of knowledge, and brush away the dust which may have accumulated on the shelves of our mental laboratory, and grant new life to ideas and methods, which otherwise would have slept away many valuable hours of time and improvement. It is said, "The mind ought sometimes to be diverted, that it may return the better to thinking." It is not exactly with this idea in view that I have chosen the subject of unification of the dental law for this paper, for there is no subject of interest to the dentist that is demanding or commanding greater attention than this one; consequently it cannot be described as a question of diversion.

It was but a few years ago that a diploma granted from any of the accredited reputable dental schools, was recognized and granted to its possessor the right to engage in the practice of dentistry within the borders of any state in the Union. This privilege was extended with the belief that all of the schools and departments of dentistry were conducted upon principle, honor and integrity, bestowing diplomas upon those only who possessed both the moral and mental, as well as the practical qualifi-

cations to practice, and not until the time came when dental, medical and legal diplomas became a commercial article did the honorable and conscientious practitioner begin to realize the danger of seeing what was destined to be the foremost profession of the age dragged down to the position of unworthiness of the name of a profession, by knaves whose spirit of honor or manhood was a thing unknown, and whose only aim in life was the gain of a dollar, gained honestly or otherwise. Thus many of the so-called colleges were conducted and sowing broadcast illegally obtained degrees, and placing in competition dishonorable with honorable men, local legislation was enacted governing the practice of our profession by different states, until now every state and territory in the Union, excepting Idaho, Nevada, Alaska and Indian Territory, has its local dental laws, stipulating the requirements requisite to the right to practice, the register and examination fees varying from five ($5.00) dollars to twenty-five ($25.00) dollars, while the requirements vary as well.

Requirements in Various States.

New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, Georgia, Florida, Texas, Colorado, Wyoming, Montana and Washington examine graduates only. Minnesota, Mississippi, Alabama, North Carolina, West Virginia, Connecticut, Massachusetts, New Hampshire and Maine examine both graduates and non-graduates. Vermont, South Carolina, Tennessee, Kentucky, Ohio, Indiana, Michigan, Wisconsin, Illinois, Missouri, Iowa, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, New Mexico, Arizona, Utah, Oregon and California, license graduates without examination and examine non-graduates, while Arkansas and Louisiana register diplomas without examination. While the statutes vary, the tenor or object of all seem to be essentially along the same line, and the goal, higher education, better qualifications and superior attainments, all of which are in keeping with the progress and advancement of our calling, and is heartily endorsed by every member of the profession who entertains that spirit of progression characteristic to American manhood and enterprise.

In framing these laws for the protection of the worthy practitioner, and the public, in this state, changes suggested themselves, which broadened into a demand for an advanced or preliminary education, requiring a high school or regent's diploma previous to matriculation, which has done more for the advancement of its members and the unification of the college curriculum than its authors had reason to anticipate, and is the foundation upon which to build the superstructure of a professional training. This preliminary educational standard which is compulsory, combined with the higher moral instincts of man, proclaims to the young man who seeks admission to our profession, that his ambition for a profes-

sional career has led him to the veranda of a broad, wide and honorable calling, where he can, if imbued with the prerequisites fitting him with the honorable characteristics and principles which ought to stand pre-eminent as a factor among his fellow men, launch him out on a life voyage of honor and usefulness.

While we encourage every step toward the uplifting and advancements of our profession, and believe that the preliminary educational standard as inaugurated by the State of New York is the beacon light, toward which our sister states are gradually drifting, and we hail with all approbation this grand onward march toward the ne plus ultra, we must also recognize this fact, that the standard, the Regent's Certificate, which is the only recognized qualification accepted, and grants an entrance to the dental schools of this state, is beyond the reach of those outside of our domain. Neither must we forget that this lamentable fact does not signify that the high school graduate of those states, not under the jurisdiction of what bids fair to be a political board, instead of an educational Board of Regents, is not equal in mental training and literary attainments to those who are thus recognized and favored. While commenting on this existing condition, which prohibits interstate recognition of the dental degree, and upon which there exists a marked degree of difference of opinion, relative to the solution of this seemingly great and perplexing problem, let us consider other important features and facts, which do not seem consistent and tenable with what ought to be, "Justice to all and favoritism to none."

State Interchange of Licenses.

With the broad mind of mankind, and the instinct of human nature, guided by reason and justice, let us work together in framing a National Dental law which will grant interstate exchange of license, and thus confer upon those holding a degree granted by any of the dental schools or dental departments, whose requirements are fully in accordance with the curriculum which now constitutes the regular course of study, in every recognized dental school in our land, the right to engage in practice wherever he may choose in his native land, without being obliged to undergo a second examination, besides being called upon to pay an additional financial consideration for a privilege which he has already earned. There are today fifty dental schools in the United States, each situated within the borders of a state that boasts a special dental law governing the practice of dentistry. Of these fifty schools, forty-one (41) representing seventeen (17) states, are members of the National Association of Dental Examiners, while nine (9) schools, representing five (5) states, viz., New York, Michigan, Minnesota, California and Washington, do not affiliate with this association. Yet New

York at its last State Convention passed a resolution to recognize the diplomas endorsed by two states, New Jersey and Pennsylvania, both members of the above mentioned association.

I do not refer to this from a critical point of view, but simply to vindicate my position and my individual views on this subject. Then, again, we have the National Association of Dental Faculties, composed of representatives from forty-three (43) dental schools, with six (6) applications for membership at the last annual meeting. The existence of both these organizations, and the objects for which they exist, commend them to the profession which they, each in its respective sphere, represent. The one formulates and specifies the various subjects which shall constitute the course of study to be taught in all the dental schools represented in the Association, to which they all subscribe. On the fulfilment of this obligation depends the success and continuance of each school, and the student who pursues this course of instruction successfully, as prepared, planned and endorsed by this body of men, composed as it is of the most intellectual representatives of our profession, has in my mind, fully met requirements and obligations which should entitle him to practice in this or any other state, it being understood that his instruction was received in, and his degree conferred by a school whose requirements relative to the matriculant's preliminary qualifications are on a parallel with those schools represented in the National Association of Dental Faculties.

Can we doubt the honor or integrity of these men constituting this assembly of faculties, when they subscribe to this course of study, or that they fail to fulfil their legal as well as their moral obligation by requiring those students who come under their care for study and instruction to meet all the requirements considered? If this be so, then why should not the faculty of one college recognize the creation of the other, whose ability and sincerity in their high educational position they recognize by society affiliation?

If I may so designate it, we have an auxiliary to this Association in the National Association of Dental Examiners, whose object, although on a different line, is wholly in harmony with the other. The first mentioned strives to elevate the professional training, and the other the preliminary educational standard, both combining their efforts for the one purpose, the elevation of the dental profession and its members. With the educational problem thus solved, the question of state interchange of the dental license becomes a question for solution, by the enactment of such legislation as will meet with the approval of a part or all of the states. How can this be satisfactorily accomplished? We are all familiar with the procedure for the enactment of laws upon any question, of whatever nature; a bill upon the question under consideration is framed and presented to

the State Legislature, if it be local, and to Congress, if it be national, and if worthy it becomes a law. Could not the several State Dental Societies elect or appoint a committee or delegation to meet in joint convention, and there, after a full and free discussion of Interstate Comity, formulate a bill based upon the present preliminary educational requirements, incorporating a clause, granting to the graduates of all dental schools recognized by the National Association of Dental Faculties, the right to practice in any state represented in the Convention composed of representatives from the several State Dental Societies? Such a bill endorsed by the local State Society would become a law and the barrier to many competent men, fully endowed with all the requisites to practice dentistry in any part of the world, would be removed, and they be privileged to establish themselves where location and inclination might bid them.

A National Dental Law in Switzerland.

This same condition, which exists in this country, and has for many years been a perplexing obstacle in others, was some ten years ago satisfactorily adjusted in Switzerland, where the various cantons (a canton is the same as our state) had their separate cantonal laws, and were in the same position as we are with our diversified state dental laws. They formed what they called a concordat or an agreement among the cantons in convention, which finally became with them a national law, by being endorsed by the Swiss Congress. A federal examination is conducted by canton or state examining boards with one member appointed by the government, and the candidate who successfully passes this board, receives, instead of a state, a federal diploma which carries with it the right to engage in practice in any canton or state. Dr. Bryan, of Switzerland, who spoke on this subject before the National Association of Dental Examiners, said with no reflection or impropriety, "Until you can give a man in the United States a diploma that will be accepted by every state in the Union, you cannot expect reciprocity in Europe." I ask, cannot the dental law of the United States be in a like manner adjusted, and still maintain its dignity, and thus extend the same legal interstate comity? With this accomplished, it would be an inspiration for the coming generation to acquire a higher and nobler professional future. He who will eventually solve this important question, we will crown him Abraham (not the father), but the honored friend of many dentists.

The Soft Tissues About the Teeth, their Morphology and Pathology.

By I. NORMAN BROOMELL, D.D.S., Philadelphia, Pa.

Read before the Second District Dental Society in Brooklyn, January, 1900

For many years a goodly portion of dental literature has been devoted to the etiology and the therapeutic management of the very many diseased conditions which infest the dental organs and their immediate surroundings. Many reasonable suppositions and assumptions in many instances amounting to more than a mere hypothesis have been from time to time presented to account for the various disorders. While all efforts in the direction of ascertaining the causation of a given pathological condition are to be appreciated as highly essential to a correct diagnosis, much in addition is to be gained by a thorough knowledge of the histologic character of the parts involved.

It is therefore with the idea of assisting to a full comprehension of the character of the soft tissues about the teeth, and their relative susceptibility to pathogenic disturbance that this essay was prepared. What I have to report will have no direct or special bearing upon any one disease, except in so far as its disposition to infection or the character or management of the condition may be influenced by the character of the tissue under consideration.

In the first place we must recognize the observation of normal tissues or those modified somewhat by disease, or even those which may originate in disease itself, as constituting the basis of two departments of science, which though totally different are closely allied, and both may be studied from different standpoints. Yet at the same time we may inquire into the morphology and pathology of tissues conjointly, the character of the latter in most instances being greatly dependent upon the organization of the former.

The parts to which I invite your attention are first the gingivae, second the pericemental membrane, and third the tooth pulp. In the gingivæ we recognize the seat of the following disorders. Calcic or other

mechanical inflammation, gingivitis including all inflammatory conditions the result of some constitutional disturbance, phagedenic pericementitis, and pyorrhea alveolaris, nearly all of which have their origin at the gingival borders. In the peridental membrane we find a tissue more or less affected by all the foregoing conditions which primarially are confined to the gum tissue alone. In addition to these, traumatic pericimentitis

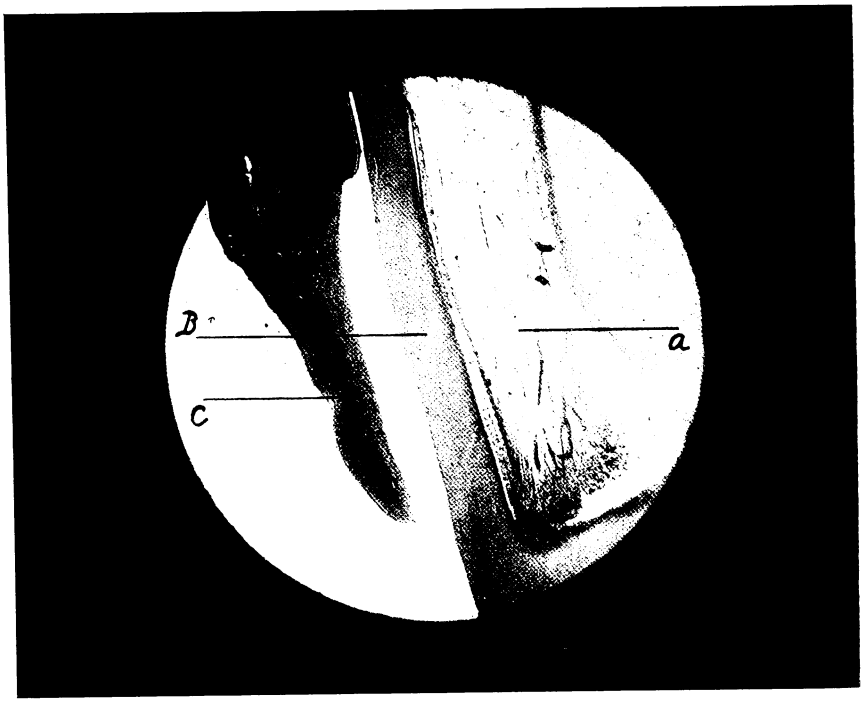


FIG. 1.—X 40.

Section through crown and portion of root of lower incisor, showing free gingival border forced from its normal position by calcic deposit. It will also be observed that a considerable portion of the gingival tissue has been resorbed, an abrupt shoulder existing near its point of attachment to the root membrane. "A"—Pulp. "B"—Dentine. "C"—Gingivæ.

the result of external injuries, defective occlusion, etc., is a common affection. It is seldom, however, that this membrane becomes diseased of itself, the exciting cause originating at one or the other of two localities, the gum margin or the apical space, after which the whole or a greater part of the membrane becomes involved. The pathological manifestation most common to the alveolo-dental space is alveolar abscess, usually

the result of inflammatory conditions in the peridental membrane following the death of the pulp. Another condition most frequently beginning in the apical district is that found in conjunction with root absorptions, this condition causing pericemental disturbance.

In the tooth pulp we find hyperemia, without doubt the most frequent pathological disturbance, and from this primary condition fre-

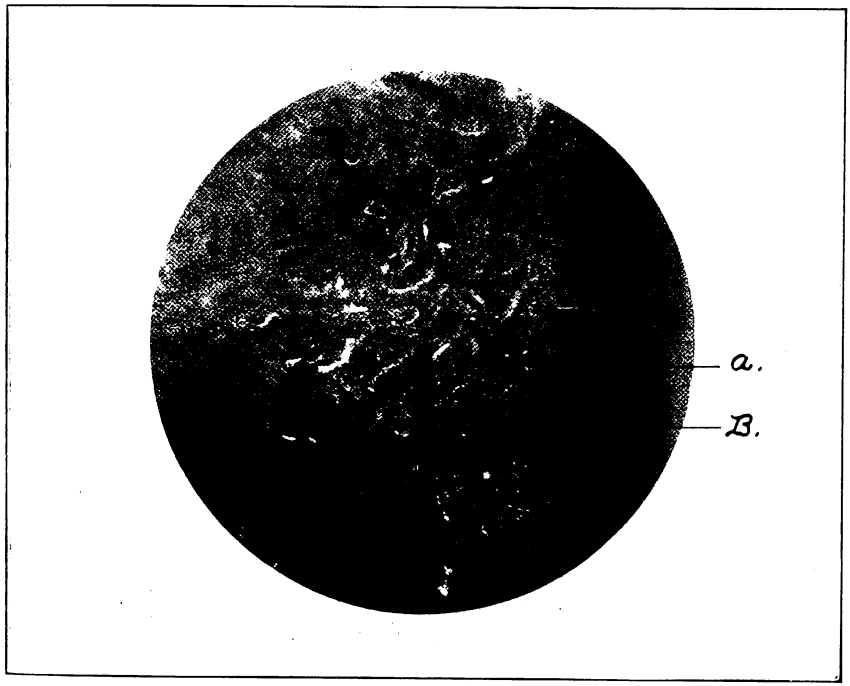


FIG. 2.—X 120.

That portion of the gingivae marked "C" in Fig. 1, under higher power, showing a breaking up of the interlacing connective tissue bundles of the tunica propria, and a general disorganization of the gum structure. "A"—Papillae on surface of tunica propria. "B"—Epithelium.

quently follows loss of vitality. Inflammation of a general character, either acute or chronic, localized inflammation usually when prolonged terminating in suppuration, and, finally, abscess of the pulp: tumors, calcareous bodies within the tissue, pulp nodules, secondary dentine, and in some instances partial or complete calcification of the pulp tissue. The pulp of the tooth and the soft tissues surrounding the organ are so in-

timately associated that the appearance of any one of the foregoing disorders in any part very soon makes its influence felt in others.

Grossly described (and this appears to cover our present knowledge of the tissue) the gums may be said to embrace all that rather tough and somewhat vascular tissue overlying the alveoli, to which they are closely attached through the medium of the periosteum, together with a certain free or unattached portion immediately surrounding the necks of the teeth. They are covered upon both aspects by the mucous membrane

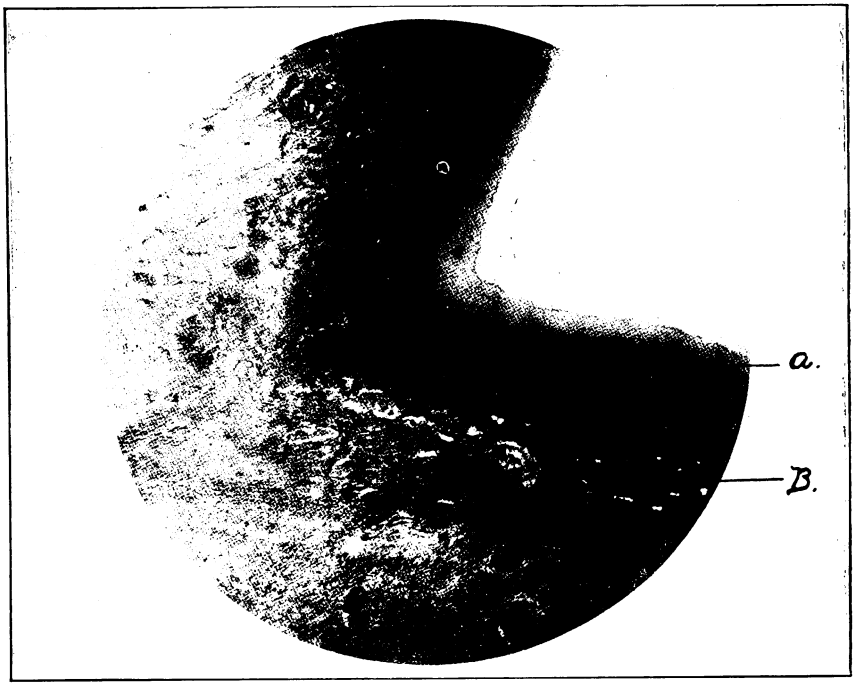


FIG. 3.—X 80.

Interdentium gingivae in transverse section. "A"—Epithelium. "B"—Tunica propria.

of the mouth, that overlying the labial and buccal surfaces being continued from the lips and cheeks, while reflexions from the floor of the mouth cover the lingual surfaces. The palatal gingivæ are identical to and continuous with the soft tissue of the hard palate and present most of the characteristics common to the mucous membrane overlying this surface. The extent of surface occupied by the gum tissues or the line at which they lose their individuality by passing into the surrounding parts is

readily described so far as the labial, buccal and lingual gingivæ are concerned, but such a mark of differentiation does not exist on the palatal aspect. On the three former surfaces in the immediate region of the necks of the teeth, the gums are hard, thin and more or less elastic, but in passing toward the base of the alveolus, the tissue becomes less firmly attached to the underlying structure, and finally when passing into the lining membrane of the cheeks and lips it becomes especially loose and flabby, with

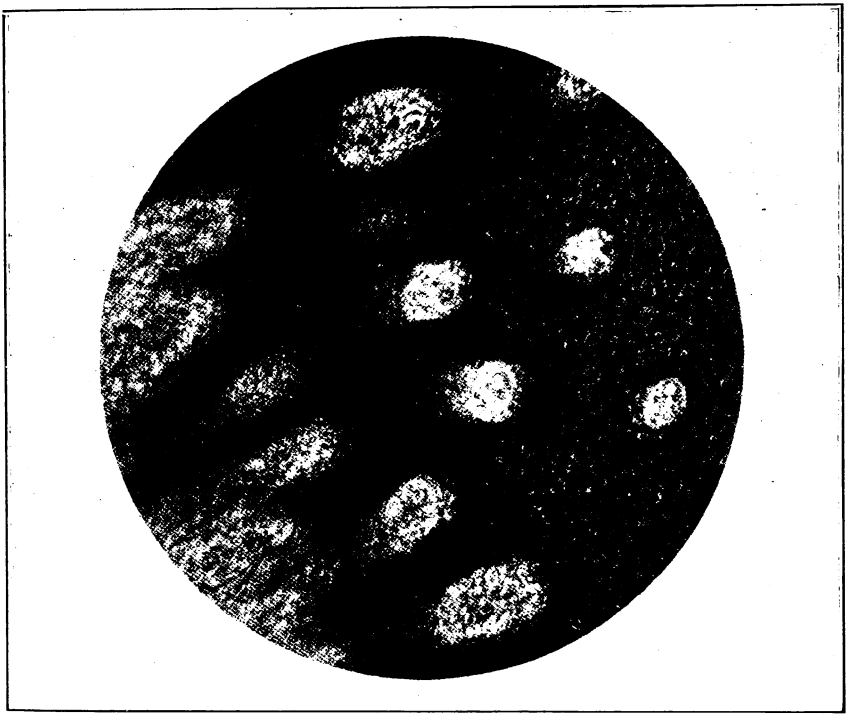


FIG. 4.—X 300.

Section through the epithelium of the gingivae, showing the concentric arrangement of the tesselated and ribbed cells.

a marked diminution in elasticity. Deeply the gums are attached to the periosteum over the alveolar walls, and to the root membrane covering those portions of the roots of the teeth not included within the alveolus. In addition to these we have the unattached or free gingivæ closely moulded to the necks of the teeth.

One feature which distinguishes the gingival from other soft tissues of the oral cavity is its excessive vascularity, and the peculiarly constructed papillæ found in its mucous membrane. While throughout their

entire extent the gums present special characteristics differing from the surrounding parts, the district most commonly referred to as the gingival borders or free margins appeals to us as of greatest importance, especially when we consider that there exists a somewhat common relationship between the gingivæ and the root membrane at this point. Here the mor-

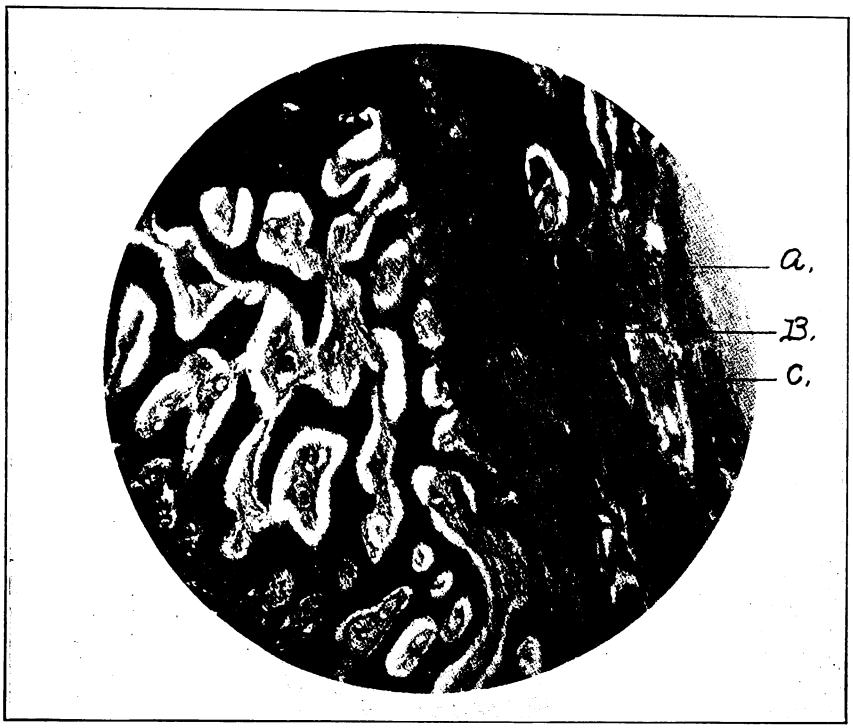


FIG. 5.—X 120.

Section of that portion of the gingivae overlying the alveolar wall. The tissue here is exceedingly tough and dense, on account of the tendinous fasciculi of the periosteum protruding into the mucosa. The general direction of the fibers is parallel with the surface of the bone, and are more or less inclined to interlace, forming a structure not easily penetrated either by burrowing of pus or the keen edge of a lance. "A"—Mucosa. "B"—Periosteum. "C"—Glandular structure.

phology and physiology of the tissues are so intimately connected that no line of demarkation can be drawn between the two, and when a diseased condition appears in one part it sooner or later involves both.

The bulk of the gum tissue being made up of mucous membrane I will first consider the character of this common lining of the oral cavity,

as compared to the same membrane in other parts of the body, and in this manner arrive at some conclusion in regard to its proneness to disease. Generally speaking mucous membranes are described as the internal skin or integument, and they are found lining all those internal cavities, passages or organs which are exposed to or communicate with the exterior. In most respects it is similar to the external skin, and performs many like functions within. Throughout the entire extent of the

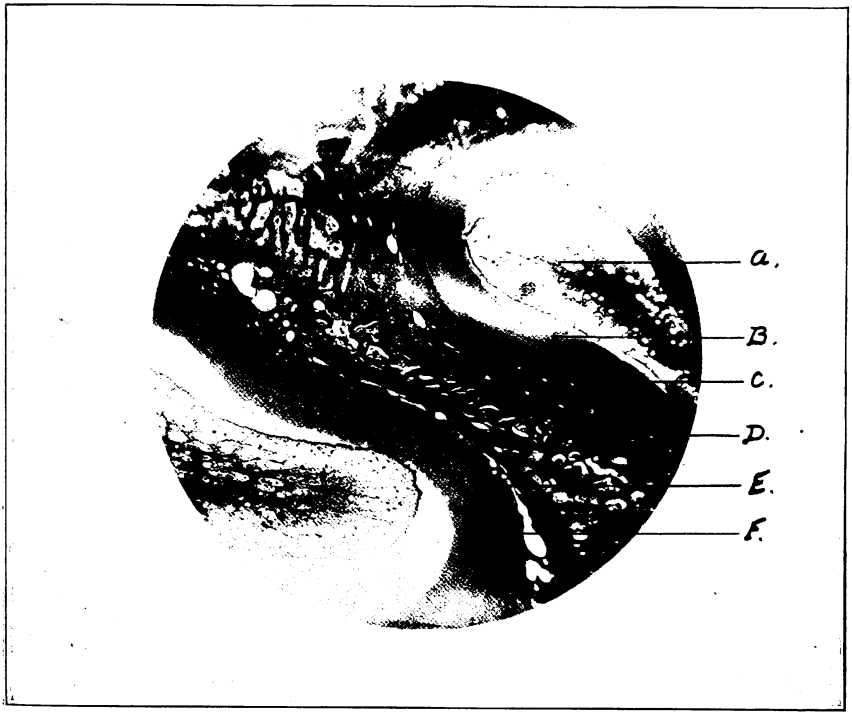


FIG. 6.—X 40.
Section transversely through the roots of two teeth, showing the interposed hard and soft tissue. "A"—Pulp. "B"—Dentine. "C"—Pericemental tissue. "D"—Periosteum. "E"—Pericemental tissue. "F"—Cementum.

alimentary canal the distribution of blood vessels is essentially the same, but the arrangement of the vessels is much modified by the size and number of papillæ or villi present in a given locality, and it is the variation in the villi and papillæ which constitutes the special character and function common to various parts. Just as we have this variation in the minute character of the mucous membrane in different parts of the body, so we find a marked difference in the character of the membrane in various parts of the mouth. Thus if a minute examination of the mucous mem-

brane of the lips be made, a marked variation in the character and especially in the thickness of the epithelium will be noted in passing from the cutaneous to the full portion of the labial fold, and finally when the inner or muco-membraneous surface is reached the epithelium will be again reduced in thickness.

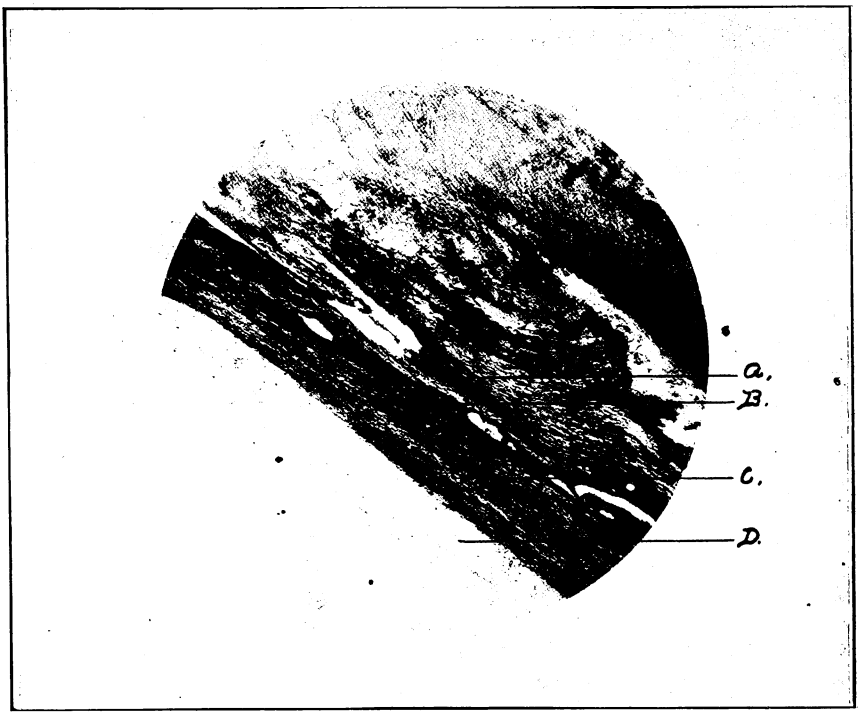


FIG. 7.—X 80.

Pericemental tissue over that portion of the root of a tooth not covered by bone, showing a distribution of the principal fibers in a direction parallel with the side of the root. "A"—Deeper lying gingival tissue. "B"—Indifferent tissue between the gum and pericemental membrane. "C"—Pericemental membrane. "D"—Dentine.

At the line where the mucous membrane of the lips or cheeks is reflected upon the surface of the alveolar walls, the beginning of the gingivæ, the epithelium is probably less in thickness than that found in any other part of the cavity. In this same locality the basal portion of the gingivæ, the papillæ are few in number and less in size, and the mucosa itself is scarcely distinguishable. In advancing from the basal to the free

margins of the gingivæ, the character of the structure is gradually changed from a simple to a complex character, being complex in so far as its organized fibrous elements are concerned. The papillæ of the mucous membrane of the gingivæ appear to officiate as supporters or conveyors of blood vessels, consequently where the papillæ are the most numerous, the vascular supply is the greatest, and when an inflammatory

FIG. 8.—X 120.

Section through root of tooth, alveolus and intervening fibrous tissue. "A"—Alveolus. "B"—Periosteum lining inner wall of alveolus. "C"—Indifferent tissue separating the periosteum "B" from the pericemental membrane at "D." "E"—Cementum.

or congested condition appears, these same parts exhibit the most aggravated symptoms. I think it is a noticeable fact that in simple gingivities the free margins of the gums appear to suffer the most, this being manifest by capillary engorgement, and by a marked swelling or puffiness of the parts. This greater susceptibility to inflammatory manifestations is not entirely due to the fact that the free gingival margins are more or less exposed, but it is chiefly owing to the excessive blood supply through the

many minute papillæ which are present in this locality. In like manner we find in the majority of instances the palatal surfaces of the gingivæ, particularly in the upper jaw, less disposed to aggravated inflammation than those buccally or labially exposed, a result of the mucous membrane of the hard palate having but few papillæ projecting into the epithelium.

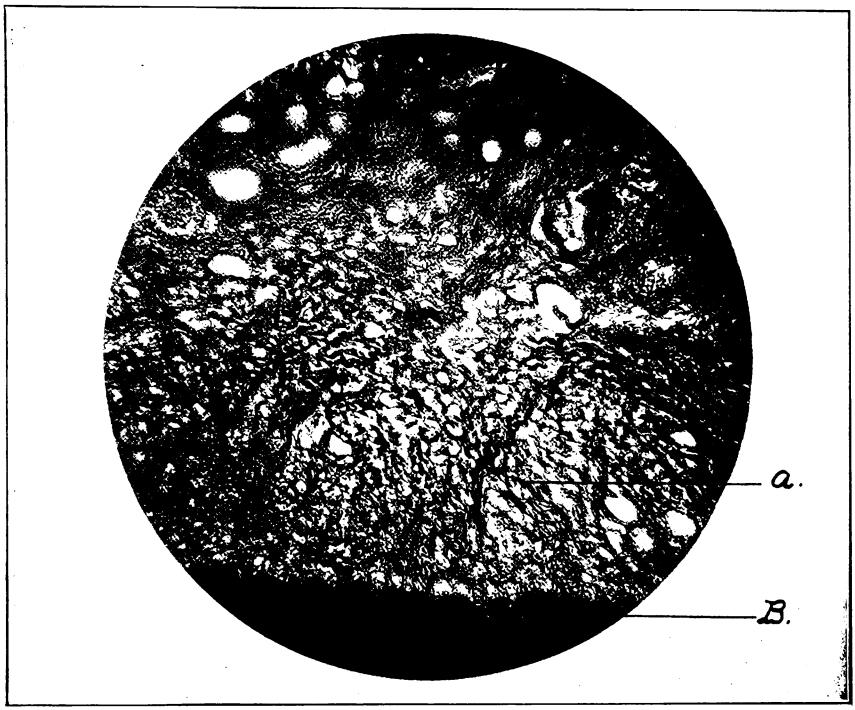


FIG. 9.—X 300.

Section taken from "D" Fig. 8, showing the disposition of the fibers of the pericemental membrane in this district. "A"—Fibers of pericemental membrane. "B"—Their attachment to the cementum.

At this point reference might be made to the susceptibility of the gingivæ to record by their general appearance a vitiated condition of the fluids of the mouth, or the impression made upon them by a systemic disturbance, both of these being readily recorded by an inspection of the tissue. While the appearance and physical condition of the surface of the gingivæ are materially influenced by systemic derangements, such mani-

festations cannot always be depended upon in diagnosis. There is no question that with a physical indisposition their liability to become affected is much increased; for instance the disturbance resulting from a slight local irritation would in a person of good habits and wholesome constitution be manifested by a limited tumefaction in those parts in immediate contact, and with the removal of the exciting cause would soon

FIG. 10—X 120.

Longitudinal section through pulp and dentine of healthy incisor. "A"—Pulp with its bloodvessels. "B"—Layer of Odontoblasts. "C"—Dentine.

disappear; while on the other hand, in a subject with a degenerating taint, the same irritation would result in extended inflammation and a general breaking down of the tissue, a condition that would not readily succumb to treatment.

A word in regard to the morphological constituents of the mucous secretions. The healthy secretions from the mucous membrane contain

no morphological elements, but form a transparent peculiarly clear and viscid fluid; but when the gingivæ become irritated either mechanically or otherwise, the secretion develops a kind of catarrhal condition or exudation, the change which takes place in the secretion being quite similar to that which may be observed in the saliva, when by some unusual influence the mucous membrane of the gland is irritated. In this manner we find that the irritating influence of a calcareous deposit about the gin-

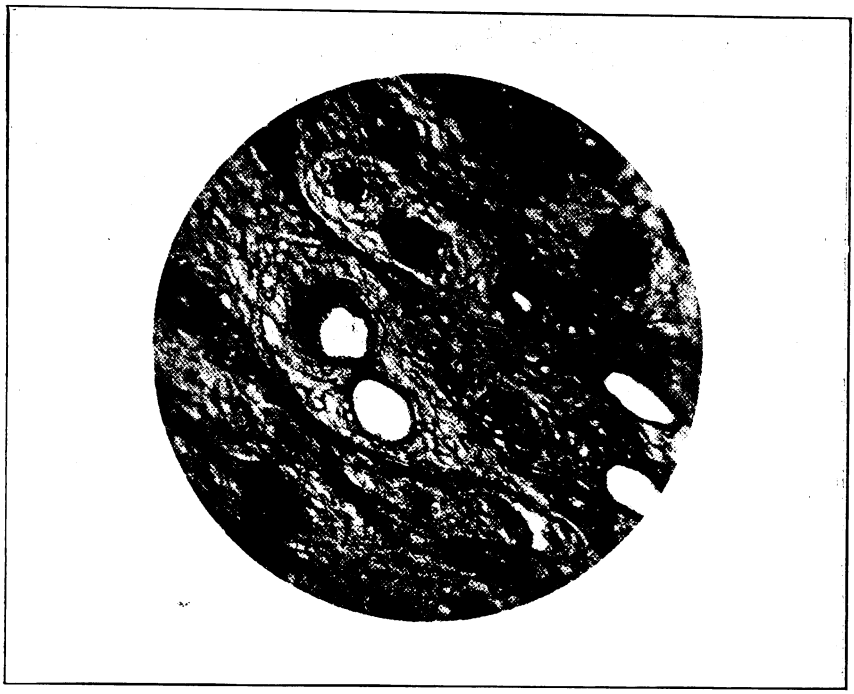


FIG. 11.—X 200.

Transverse section through healthy pulp of incisor, showing the connective tissue network and vessels cross cut.

givæ interferes in a measure with a free and healthy flow of the mucous secretions, and possibly to this we owe to a great measure the breaking down of the tissue, and in the logical treatment of such a condition those measures must be pursued that will most readily bring about a healthy secretory action in the membrane.

The catarrhal condition above referred to is in many respects akin to the same disorder so common to the mucous membrane of the respira-

tory passages, the progressive symptoms being first an area of inflammation chiefly characterized by the more or less rapid spreading of a purulent exudate within the tissue; second a morbid enlargement or inflation of the parts; third a surface accumulation of effused material forming a lesion of the epithelium, the tissue to the depth of the stratum mucosa only being denuded. If the proper remedial agents be employed at this

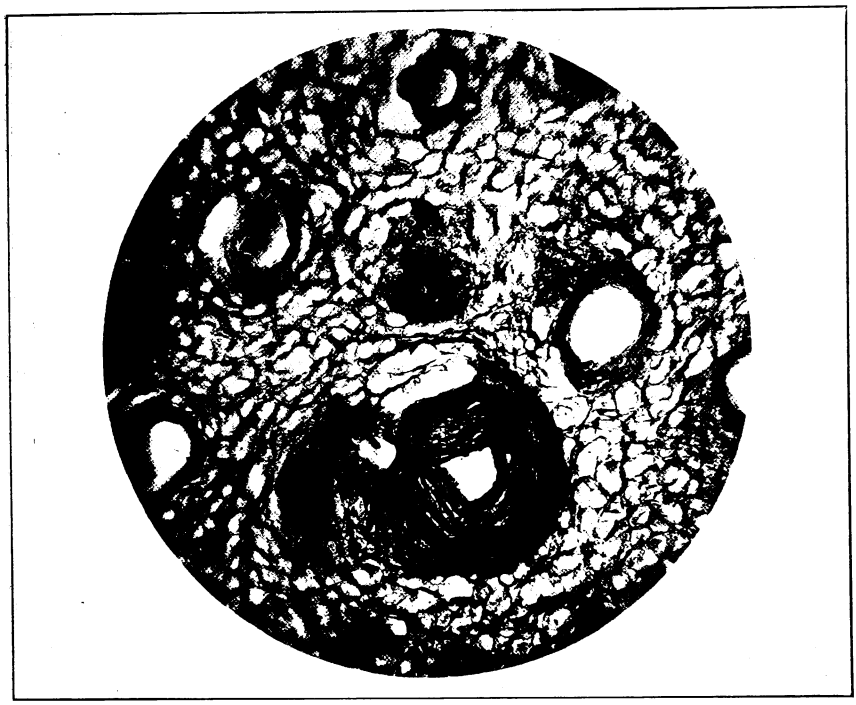


FIG. 12.—X 300.

Transverse section through pulp of incisor much affected by an inflammatory process, and showing a pronounced thickening of the walls of the bloodvessels.

stage of the disease, the parts will heal and the affected epithelium will be reorganized, in a manner similar to the obliteration of a surface lesion of the integument. If the disturbance be allowed to progress, however, a marked change in the character of the exudation will be observed, pathological elements in the form of pus corpuscles being present in profusion. The disease now becomes infectious and the surrounding healthy tissue soon becomes involved.

The diseased condition whatever may have been its cause, and assuming that it has had its beginning in the gingival borders as it usually does, next attacks that portion of the alveolo-dental membrane known as the dental ligament. This ligament may be said to be common to both the gingivæ and the membranes between the tooth and alveoli, the fibers composing it passing from one to the other without any special distinguishing feature. If the function of this so-called ligament is one of imparting specialized support to this part of the tooth, any irritant which may cause its destruction will more or less affect the rigidity of the tooth. I think, however, that there may be a reasonable doubt about the office of these fibers being to assist in the support of the tooth at all, and that they should more properly be considered as supporting this portion of the gingivæ. Accepting this as the principal function of the so-called dental ligament, its destruction would result in a falling away of the gum tissue from the neck of the tooth, one of the early symptoms of approaching pyorrhea alveolaris. An examination of the soft tissues rootward from the neck of the tooth, or in the region about the free margins of the alveolus, be the section moderately thick or exceedingly thin, brings to light a set of fibers which emerge from the alveolo-dental membrane, and are observed to curve over the rim of the alveolus soon losing their identity in the deeper lying gingival tissue.

With these are another set of fibers which pass directly out from that portion of the root membrane beyond the margins of the alveolus, and likewise are soon lost in the substance of the gingivæ. Both sets of fibers may best be seen in longitudinal section, and in no instance do they appear to be attached to the periosteum of the alveolus, and unless this were the case they could give no support to the tooth, serving only as a means of tieing the gingival margins to the neck of the organ.

The exciting cause of any gingival disturbance whatever it may be, greatly favors the destruction of what I shall term the *gingival ligament*, in contradistinction to the dental ligament; a circular pocket is formed which gradually becomes deeper and deeper, the exudation which now contains pus corpuscles is so confined that it soon makes its influence felt not only in the soft tissues but in the rim of the alveolus as well, the frail septa between the teeth first breaking down. It is in this stage and not until this stage that the tooth begins to suffer from lack of support. A knowledge of the histological character of the parts just described will have much to do with a correct diagnosis and prognosis; a simple purulent discharge with a flabbiness or falling away of the gingival border but without marked mobility in the tooth denoting an involvement of the gingival ligament only, while the same discharge accompanied by a more

or less noticeable lack of support in the tooth, meaning loss of bony structure and an involvement of the alveolo-dental tissue.

The next structure involved by progressive disease having origin at the gingival borders is the root membrane and the alveolar periosteum. It might be argued that this membrane, if of a dual character, could suffer from the ravages of disease in one part with little or no effect upon the other; this, however, would be an extravagant hypothesis, for while we may recognize two membranes arising from opposite directions and performing distinct and separate but closely allied functions, we must concede that they are in immediate contact with each other and more or less intimately united. But why should we question the existence of two distinct layers or parts? Surely no substantial evidence has ever been adduced to warrant a belief that this condition is not really present. The importance of the membranes between the tooth and alveolus to the health and comfort of the tooth cannot be overestimated, disease of the parts is frequent and more or less perplexing in character, but just what influence the duality or unity of the structure might exert over its pathology is uncertain and there is no reason why it should be considerable.

In looking over the literature of the subject many arguments are found favoring both the single and double membrane theory, and after a careful study of the parts one fact makes itself most manifest, that is the periosteal character of all the tissue found between the tooth root and the wall of the alveolus. Accepting it, therefore, as a periosteum would naturally indicate the presence of two layers, a fibrous layer and an osteogenetic layer. But in addition we are aware that periosteum is differently constituted in various localities. Take for example the periosteum covering the hard palate and those portions of the alveolus where the gingivæ are thin. Here the mucous membrane by its deep layer is so intimately associated with the periosteum that it is usual to consider them as a single membrane. If the periosteum lining the alveolar socket is a reflexion from that covering the outer wall, and is composed of two layers, the fibrous or ectal layer would be in contact with the cementum of the tooth unless a special membrane be present covering this tissue, and indeed there is no reason for considering it otherwise. The pericemental membrane is without doubt purely dental, while the periosteum is distinctly alveolar. Nothing could be more favorable to this theory than the result of an investigation into the mode of development of the two tissues. The cementum is developed within the walls of the dental follicle; the alveolus ever subservient to the growing tooth is developed outside the follicle. I contend, therefore, that all tissues developed within the dental follicle are truly dental tissues, and that the pericemental tissue is a tooth tissue bearing the same relation to the cementum as does the pulp to the dentine.

In the examination of very thin sections of cementum, pericemental tissue, alveolar tissue and bone, there appears a distinct difference in the character of the parts, particularly with reference to the character of the cells and fibers. In this connection the question of tooth attachment to bone presents itself, for if two distinct tissues are present, one of which is grown from the dental saculus, and the other from the common periosteum, how can we account for the passage of the fibers directly and entirely across from the cementum to the alveolus? About the only way to reason in regard to such a condition is to doubt its existence. Has anyone ever observed these fibers passing unbroken from tooth to bone? True, we have them beautifully pictured to do so both by pen and diagram, but such proof is frequently the result of forming mental images, a fancied condition, a mere inference brought about by a chronic desire to have it so. Of the very many sections recently made by the writer, no such an arrangement has been found to exist, but in its place the fibrous elements which pass out from the cementum lose their identity by the time the central district of the tissues between tooth and bone is reached. The only part in which the fibers of the pericemental membrane may be observed to reach out beyond this extent is, as already stated, at the gingival borders here forming what I have been pleased to term the gingival ligament. From constant and careful examination I feel warranted in expressing the opinion that there is no real attachment between the tooth and the bone, other than that afforded by contact, assisted somewhat by the rather indefinite commingling of the soft tissue. Viewed from a pathological standpoint, if a single membrane, a periosteum, if you please, is the only tissue present, we would have in cases of excementosis or exostosis, frequent ankylosis, but it is doubtful if such a union has ever been established, although I recall that a year or two ago Dr. Mendel Joseph, of Paris, sent me a photograph of a section of tooth and bone having every appearance of complete ankylosis.

Having decided that two membranes are present between the tooth and the socket, some reference must be made to the nature of the blood and nerve supply to these and incidentally to the tooth pulp. It has never been found that there is a hypertrophied condition of the root of a tooth and its supporting alveolus at one and the same time, but in place of this excementosis of the root is always accompanied by a corresponding absorption of the bone. There is but one inference to be taken from this, instead of a similar action taking place in both tooth and bone we have in one a creative process, and in the other a destructive process, showing conclusively that they are not under the influence of the same nerves or nourished by the same blood supply. If a single membrane were present with a common vascular system, any inflammatory condition in the tissue

would have a like effect upon both tooth and bone, unless indeed one part suffered by a general breaking down accompanied by a suppurative process. We must, therefore, consider that the peridental membrane receives its blood and nerve supply from a source common to that of the other tooth tissues, whatever that may be, while the periosteum of the alveolus a separate and distinct layer is nourished by vessels which are common to the bony walls.

In conclusion it remains to briefly consider the source of blood and nerve supply to the tooth tissues, and this is by no means a matter that is fully understood. It is true we are told that each tooth root is supplied by a small arterial twig given off from the main artery, this passing through the substance of the bone and entering the pulp canal through the apical foramen. We are also informed that immediately before the dental twig enters the foramen, it sends off many branches which are distributed to the pericemental tissue. This may be the real condition, and it is not my intention to call it into question at this time, except to present a query as to how such a distribution of the vessels could be brought about after considering the nature of the vascular supply to growing teeth. If a dissection be made upon the jaws of a child, while the developing teeth are inclosed within the follicle and this follicle be lifted from the bone, there will be found no vascular communication between the bone and the walls of the sac. In place of this the only apparent source of blood supply is that which traverses the walls of the sac and apparently springing from the substance of the tissue. If the same teeth be examined after their roots have become partly calcified, the free ends of the roots will be found still inclosed in a sac-like covering, with yet no evidence of vessels or nerves entering the pulp excepting those which appear to recoil and enter from the saculus. In like manner the same result will be present if the examination be made at any time up to the complete calcification of the root length. My query is, and I shall not attempt a reply, at what time and in what manner do the blood vessels from the main trunk enter the foramen?

Second District Dental Society.

January Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, January 8, 1900, at the Argyle Building, Fulton street, Brooklyn. The president, Dr. Kraemer, occupied the chair, and called the meeting to order.

The First District Dental Society of New York, and the Central Dental Association of New Jersey, whose members had been invited to attend this meeting, were well represented.

Dr. Norman I. Broomell, of Philadelphia, read the paper of the evening, entitled, "Soft Tissues About the Teeth; Their Morphology and Pathology," the same being illustrated by a number of lantern slides.

Discussion.

Dr. H. S. Nash, New York.

I was not aware that the lecture this evening would be so confined to the histology of normal tissues as it has proved to be. Presuming that their pathology would form a greater portion of the paper, I was prepared for its consideration from this standpoint, otherwise I feel that it would be an inexcusable digression for me to introduce anything in respect to periodontal disorders.

The histology of both the peri and endodontal tissues has been brought before us so admirably and thoroughly by Dr. Broomell that I would be happily disappointed to find that any one among us is able to add anything of interest. Still, I must say that certain pathological states seem to me to depend upon a somewhat different disposition of the pericemental fibers than has so far been shown to exist. I am inclined to the supposition that Dr. Broomell is himself not certain that his photomicrographs are conclusive in this respect. I am referring to the general direction taken by these fibers in that part of the pericementum which is between the apical and marginal portions. If I remember his remarks

accurately, it would seem that the portion of them that relates to this topic were not absolutely decisive.

This is one aspect of the case where a short reference to pathology might be introduced. It is in the way of confirming Dr. Broomell's conclusions respecting the morphology of some of the marginal pericemental fibers, viz., that they join and are continuous for some distance in the alveolar periosteum and the pericementum without apparently changing their functions or macroscopical characteristics. This is in that peculiar variety of periodontal disease where there is no other clinical evidence at first of a pathological condition than a chronic discharge of pus, viz., the idiopathic kind.

So far as I have been able to ascertain, its first demonstration is in the form of an extremely minute abscess on the alveolar side of the marginal portion of the tissues which have been so beautifully portrayed to us this evening, but instead of following the alveolar periosteum, it proceeds toward the pericementum first and then from this tissue the progress of the abscess is in the general direction of the apical region, involving all the soft parts between the alveolus and cementum.

We would naturally expect to find that such a course had been pursued, i. e., along the course of the fibers instead of across them in this and other conditions, where the physiological rules relating to pus pursuing the shortest course of exit are not in question. While this apparently confirms Dr. Broomell's discovery in reference to the general direction in which the other fibers, not the marginal ones, are found to lie, viz., to a very great extent if not wholly parallel to the face of the cementum, I have never before thought this to be the case, but that these fibers are mostly at right angles to the roots of the teeth. I would be glad to be correctly informed about this, for I have formed several theories which are based upon this supposition. But these shall be promptly abandoned or changed, if their basis is untenable.

My own microscopical investigations have been confined to ascertaining the effects of arsenious acid upon the pulp, why it is sometimes effectual in destroying it within twenty-four hours in some cases, and why in others years are required for this purpose. The results of these investigations will be given to you, I trust I may be able to say, in a work on the treatment and filling of roots as soon as may be after my present labors in respect to periodontal disorders are completed.

Dr. John T. Hart, New York.

I am impressed with one idea, and that is, that a new era has been opened up to us in the thought that after the idea has been expressed, it may be so well demonstrated to us that the idea is clearly conveyed. I want to compliment Dr. Broomell in not selecting only such

sections as would undoubtedly prove his assertions. He has not discriminated to such an extent as to destroy all arguments on the other side of the question—not claiming that we have any—but yet I think that some of the specimens shown do not prove his assertion that the pericemental membrane is twofold. The specimens that would lead one to believe that it was dual in its existence, that is to say, that there is a pericemental membrane and an alveolar membrane, to my mind are due to the fact that those teeth when they were extracted had a firm attachment between the pericementum and the alveolus, and in extracting them certain fibers were drawn, too, and consequently gave the result which the essayist so beautifully depicted.

Dr. Broomell. They were not extracted.

Dr. Hart. Then how was the root dissected away from the alveolus? One of the pictures shown indicated the gum at the gingival border and the pericementum and the alveolus.

Dr. Broomell. It was not extracted.

Dr. Hart. No, but it was dissected away. Then the picture showed distinctly another specimen where the essayist himself admitted that the duality of the membrane was not indicated at all. The later specimens, taken from the embryo, while beautiful, prove nothing in the line of this argument, because the first and second specimens have no roots at all, and the third one was shown in bulk, or macroscopically, rather than microscopically, which only goes to prove that while we think very probably the essayist is right, there are still arguments left on the other side. A practical point which was very clearly brought out, is that under a mild irritation we obtain considerable absorption of the alveolus. Where this condition obtains, I do not think too much stress can be laid on the difficulty with which we can get a restoration of the healthful condition of the root in its socket, unless we firmly fix the teeth—bind them together by ligatures or splints, so that artificially or mechanically we build around the teeth a support such as has been removed by Nature under the irritation about the roots of the teeth.

Dr. M. L. Rhein, New York. The paper interested me very greatly, because I have been following very closely the work Professor Broomell has been doing, following it with a great deal of satisfaction, and there has been nothing that he has given the profession in this way in the last few years, that I have not felt ought to meet with our cordial approbation. I was particularly impressed this evening with the importance that he gave to the anatomical articulation of the tooth with the jaw, and especially with the clear-cut

description of the ligaments that attach the cementum with the pericementum. To my mind—intuitively, it seems to me—there must be a double membrane for this attachment. I think every practitioner who has given the treatment of loosened teeth much attention, can come to no other conclusion, and the point he has brought out this evening is one I have discussed with Professor Broomell. It is with a feeling of great satisfaction that I see the beautiful illustrations that he has given us, showing this well-defined distinction between the membranes. I never believed we could get a picture that would demonstrate this as clearly as has been shown to us this evening. The condition of ligaments which have been so clearly portrayed this evening, both the dental ligament and the gingival ligament, should be guiding points in the treatment of diseased teeth; whether they are entirely destroyed or partially destroyed must have most important bearing upon the prognosis of a loosened tooth when it is brought to a dentist's attention. Another point that is certainly well worth the consideration of all of us this evening, is the clear way in which the essayist portrayed the importance of these ligaments, and the beautiful manner in which they were shown to us. If teaching such as this is given to the students in the various educational institutions throughout this country, it is bound to produce a set of superior dentists.

Dr. Broomell. I feel very much gratified at the expressions that have been given favorable to the paper to-night, and with this gratification I must express a source of regret. Since my arrival in Brooklyn, I was led to believe that Dr. Nash had something up his sleeve, but I have been disappointed. I was extremely pleased to think Dr. Hart took exception to some parts of the paper, because that is the best part of any paper. I consider that a paper that every one agrees with, has but little value in it. When the bone of contention is the most prominent feature in the discussion, that gives life and distinction to the essayist's work.

Dr. Hart spoke, however, of sections that were made when teeth had been extracted. He must have misunderstood the illustrations, because all of the sections were made with the teeth in the jaw.

Dr. Rhein's remarks have also been appreciated, because I know he is interested in just the line of work on which I have been working myself. I thank the audience very much for their kind attention.

The President then introduced Dr. Crouse, of Chicago, who addressed the meeting on the subject of the "Dental Protective Association."

Dental Protective Association.

Dr. Crouse. Gentlemen of the First and Second District Dental Societies, and the Central Dental Association of New Jersey: I am glad to be with you. I think it is my first appearance in this city before any of the dental societies, although I have had considerable experience in the federal courts here.

I came here on what I consider important business, in regard to the Dental Protective Association. I learned from one of the members in New Jersey that a suit had been brought against him by the International Tooth Crown Company, and as the game seemed rather scattered, I thought it would be well to come back and gather our flock, to see that we were safe, and be sure another onslaught would not frighten the game out of the field.

As soon as the International Tooth Crown Company obtained their decision and announced it, it was of course my duty to begin a plan of defence, and I have been doing it since July 31. I have had a vast amount of experience which would take me two or three weeks to even outline to you. When the litigation was on before, it was so easy to make it easy for the profession that they thought nothing important was in it, and it was hard to rouse their interest. It took ten or eleven years to get as many members as I have gotten in the last sixty days.

The decision has been rather a benefit than otherwise, because it has enabled us to double our membership. While I am willing to take the extra trouble, I think the members should stand by the guns and not give the Crown Company any encouragement. The proposition was made to me that I should give them a check for a certain amount to settle and they would give the check back. The proposition of settling with individual members was not known to me; I was greatly disappointed, and I felt the members ought not to have settled, and I think they will see it more and more. I have under way a circular letter to all the members, in which I propose to urge that if members are going to settle with the Crown Company that we will adopt a plan of increasing our membership, but drop those who settle, because the association has no use for members who will not stand by the guns, no matter what takes place. It has been twelve years since this fight commenced, and it has been kept up from the time we got the decision and supposed the Low bridge patent was out of the way. That is the only patent that they have, although they always throw out this proposition: "If you have been doing crown and bridge work, etc." We beat the crown patents. There has never been a suit that the Protective Association has lost—never a case that the members have not

been protected, unless we found that the member has been trying to sell us out. There have been instances of that kind.

How the Boston Cases Were Settled.

I was visited in Chicago by the President of the International Tooth Crown Company about two months ago, with a view of seeing how the land lay. We had a pleasant interview, although not fixing matters to suit him, and the next thing I knew, they had sued nine men in Boston. Massachusetts is the only state in the Union wherein a keeper can be put into an institution after a court decision has been rendered in favor of a patent. I was telegraphed by a member that a receiver had been put in his office, and he asked me what to do. I said: "Put him out—civilly or otherwise." We telegraphed to an attorney in Boston, and put him in charge, and he told me to get a bond of $45,000 with a surety company in Boston. I do not usually carry that amount with me, but I scurried around and got it. The keepers had to be paid $5 a day, and they were in nine offices in Boston, and it took us eight days to get them out. We went to court and got the court to have all the bonds removed, and the keepers taken away, and I have my securities back, and the court said if they did not pay all the costs, they would put them into prison—that it was simply a species of legal blackmail—trying to get the profession to do in that way what they could not do by civil procedure. Now we have the Crown Company under $60,000 bond. I never saw Mr. Bennett personally in New Jersey. We put in the testimony. It was not necessary for him to be there. Many men in New Jersey say they cannot spend the time to go to Trenton. Now it is twelve times easier for us than it was before, because now they must convince a jury as well as a judge that they are right.

Dr. Jarvie.

Tell the dentists of Brooklyn what they would have to do if they were sued.

Dr. Crouse.

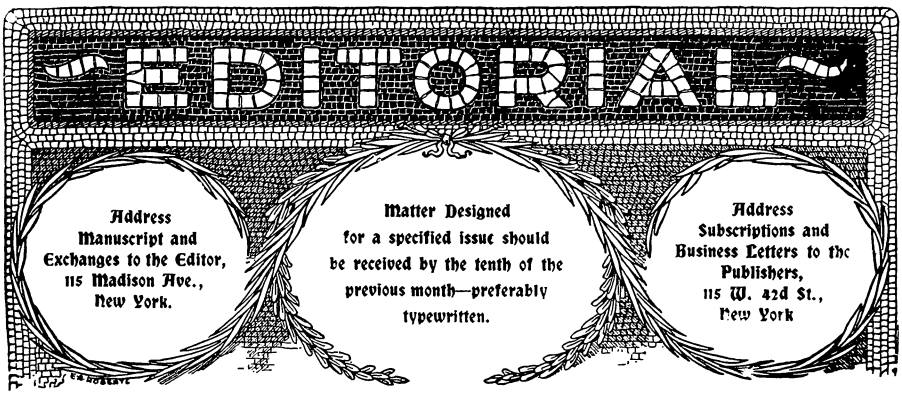
All we want is a copy of the paper served. We will take care of the rest. Send them to us by mail. We have a local attorney in New York. We do not want their protection; we want to wipe out this from the dental profession, and if we cannot do it, I want to get out. Let the men who were in the rubber business give their experience. Collusion was proved in the courts, after the rubber patent had been proved valid. The rubber company had so much more money, and they paid the dental company's lawyer $10,000 more than the dentists paid. The lawyer was debarred afterwards. They paid one and a half million dollars royalty after the patent had expired. I do not believe in a state of affairs where a class of intelligent men—a profession that prides itself on its high character—will allow men to banter them out of $20 or $100 or any sum of money.

I think it is high time to stop. I would like the opinion of the members present about letting others come in. If the Crown Company are going to get some members to settle and torment us in that way, we must try to increase our membership.

Dr. Freeman. I see these men are using the very circular you sent out closing the doors on December 1. They show it to young men who have recently graduated, stating the doors of the Dental Protective Association are closed, and therefore asking them to settle. I think it would be a good idea to open the doors for thirty days.

Dr. Crouse. The doors have never been closed really. The only thing was we would not defend members on the Low bridge patent after a certain time. We hope all the young men will come in, and that one of the features of graduation will be that the young men will come right into the association. That will be the finishing touch. Of course, they have any number of patents that they will spring on us.

I want to remind you of the fact that when this association was organized, there were seven different companies attempting to get royalty on various devices from the profession. Inside of six weeks, they were all stopped. That was the trouble; it was too effectual. To what extent the Crown Company is collecting royalties outside of the association would be an interesting thing to know. In one town in New York, four or five dentists paid $1,000. I simply sent postal cards to members in New York State, stating I would take them in by their paying a membership fee of $20. What the wise course is to pursue for the present, I do not know. I do not like to say I have closed the doors and will not take anybody in after they have been notified six or seven times. You know the old saying, that a sinner can always return—that there is always time for repentance.



Are We a Liberal Profession?
A One Thousand Dollar Secret Given Away.

The following is a story with a moral. At least a moral should be found. The editor was sitting one morning in his office and wondering why a man should insist upon having the first hour on a particular day, and then send an excuse by telegraph instead of keeping the appointment, when a stranger was announced.

"Dr. Peck of Minneapolis."

Dr. Peck was duly ushered in and at once stated his business. He had heard that the editor was interested in porcelain fillings, and he had perfected a method which promised marvelous results. Being invited to exhibit specimens he produced several porcelain teeth, upon which other porcelain had been fused, the match in color being perfect.

"How do you do this, Dr. Peck?" was asked.

"Ah! That is my secret," was the reply.

"Oh! A secret! Then why do you bring it to me?" said the editor

"Well, I have come to New York to introduce this method. I will explain it thoroughly to any dentist for one hundred dollars."

"What! Tell the secret for a hundred dollars? How long do you think it would remain a secret?"

"I have no doubt I could trust the profession."

"You are mistaken. You could not trust me for example. If I pay a hundred dollars for your secret, I would give a public clinic with it next week."

"Then, of course, I would not be willing to impart it to you. But why should you that?"

"Because," said the editor, "the day and era of secrets in dentistry is past. It is not for the best interest of our profession to encourage any man who wishes to sell his knowledge for cash."

"But do not the professors in the colleges do that?"

"Not at all. The college teachers are not imparting *secret* knowledge, but *common* knowledge. Knowledge which is for the most part to be found printed in books. The professor charges for his teaching, not for his knowledge."

"Then you see no harm in taking money for teaching a method?"

"Certainly not, provided there is no embargo of secrecy put upon the student. I tell you very frankly, Dr. Peck, that if you try to sell that method of yours, holding men bound to keep it secret, I will do all I can to prevent you from succeeding, and if I fail I will use my journal to expose the men who deal with you."

Here ended the first interview.

Much more had transpired in the conversation however, during which the editor, Sherlock Holmes fashion, elicited certain facts which may best be recited later.

A New Way of Selling a Secret Method.

Next it was learned that Dr. Peck had formulated a new plan which would be expounded at the meeting of the Second District Dental Society. In spite of the rain therefore the editor thought it best to be present, and in due time the proposition was made. Dr. Peck suggested that as he had spent a great deal of time and money in perfecting his method, he thought he ought to be able to get some remuneration for his result. He thought he ought to have at least one thousand dollars, but he could see, since talking with the New York men, that his first idea was untenable and indeed not professional. He declared he had never been other than professional himself and wished to continue so. Consequently he had decided to "*form a class*" to whom he would teach his method for one thousand dollars. He thought the

class might contain fifty men, so that the cost to each would be but twenty dollars. And he agreed that as soon as he had demonstrated his method the members of the class might be at liberty to give it to the profession. He again exhibited his specimens.

Strange to say there was no rush towards the tempting bait. Some of the Second District men even had the bad grace to ask awkward questions. One man wanted to know "what would become of the fees paid if the *student* should not consider the method worth twenty dollars after being taught?" Another asked, why the Doctor had been unable to sell the secret out West, and if he could give any good reason why New York should buy the secret and then give it to the profession, rather than Philadelphia, Boston, Chicago, or his own town. Another suggested that he sell out to Dr. Grouse, and let the profession get the secret as members of the Protective Association. These and several other questions of similar import remained unanswered, some one at length suggesting that Dr. Peck should divulge his secret to a prominent dentist in New York and let that man report upon it. Thus ended the second session.

Subsequently the editor heard that a committee of two, members of the First District Dental Society had been appointed, had learned Dr. Peck's secret, and had reported upon it favorably. Whereupon Dr. Peck was industriously trying to get signatures enough to fill up the class of fifty.

In conversation with one of the committee the editor said:

"You find that this man's method is absolutely new?"

"So far as I know it is new," he answered, "and when you hear what it is you will wonder why you never thought of it before. It is so simple."

"No, I shall not wonder," said the editor, "because I have guessed the secret."

Ten minutes later, the editor related his guess to three friends and explained the deductive process by which the truth had been reached, as will be given later. Here ended the third seance.

New York's Great Liberality:

Several days later Dr. Peck called to obtain the editor's signature to membership in the one thousand dollar class. But the editor declined, saying:

"In the first place I am not convinced that your secret is worth a thousand dollars; and secondly

in spite of the fact that a number of prominent and professional men have agreed to your terms, I am far from certain that they are not making a mistake. I will not say that it is unprofessional, because you have removed the embargo of secrecy, but I doubt the wisdom of a policy which will encourage men to withhold rather than to impart knowledge. As an editor, therefore, I prefer to be free to write as I may see fit on the subject."

Subsequently the editor learned that only twenty, or not many more, joined the class, and from these Dr. Peck was finally satisfied to accept twenty dollars each, so that the thousand dollar secret went for a trifle over four hundred dollars. Thus, as in biblical days, the prophets still come out of the East. Thus terminated the fourth session.

The Thousand Dollar Secret Exposed.

It may prove interesting now to jot down the points, Sherlock Holmes fashion, from which the truth was deduced, for as has since transpired, "the editor guessed right the very first time."

At the first interview with Dr. Peck these facts were elicited and stored up for future use.

First. His specimens were porcelain teeth which had been ground, after which a ridge of new porcelain had been attached by baking.

Second. The match of color was not merely approximately good. It was *absolute*.

Third. He said, "I cannot put up the body and sell it, because the body for each case must be prepared each time. You can get it as cheaply as I can."

In discussing the matter at the Brooklyn meeting, the following point came out and was added to the others. Dr. Peck was asked why he had not shown any inlays in natural teeth, and he said that he had not done so because he would not pretend to match the color of a dead tooth.

"But you guarantee to match the color of a tooth in the mouth?" asked the editor, and Dr. Peck's reply makes the fourth point.

Fourth. "I can only match a tooth in the mouth," said he, "in so far as it can be matched with porcelain. If it can be matched with porcelain, I can match it."

Pondering over these four admissions or statements, the editor asked himself a few questions during the next day or two, and finally arrived at

what seemed to him a solution of the problem. When the committee man said, "You will wonder you never thought of it before. It is so simple," he became certain that his guess was right. And it should be remembered that all that is here set down was told to the three friends already alluded to, long before Dr. Peck made his demonstration.

Here are the questions which the editor asked of himself:

"If this man can produce any required color to match a given piece of porcelain, why does he waste time with the dentists? Any manufacturer of teeth would pay a thousand dollars to be able to reproduce colors absolutely? Why did he say that he could only match the color of a tooth, as it could be matched with porcelain? Why, if he did not care to show an inlay made for an extracted tooth, did he not show an inlay fitted into a cavity ground in a porcelain tooth? Why was his sample of matching produced by fusing one porcelain upon another? Why should it be necessary to prepare the body for each separate case, and how can it be that this body is equally accessible to all dentists? Eureka! There is but one answer to all these questions. There is but one method of absolutely matching a given piece of porcelain, which might be used by a dentist, but which would be useless to a manufacturer.

Here then is the wonderful method. A set of teeth baked at one time by a manufacturer will come out of the furnace of one color. These teeth are carded in sets. Two central incisors taken from the set will match absolutely in color. To produce his absolute match, Dr. Peck takes one tooth, crushes it in a mortar, and having ground a groove in the other tooth, makes a paste of the powdered tooth, places it in the groove and fuses it.

Now let us run over our questions. Would such a method be of value to a manufacturer? Certainly not. Is not this kind of body accessible to all, and is it not specially prepared for each case? Do we not see now why he can match tooth color only as it can be matched with porcelain? The test would be to find a piece of porcelain to match the tooth, and having found it you have the means at hand for procuring the body which will match your tooth. But is this true?

This brings us to the query, Why did he not show inlays in cavities ground in porcelain? This is the reason. Proceeding as he did he was safe. The powdered tooth made into a paste and added to the second

tooth from the same set, being of the same body originally, and both being placed in the furnace, the match will be absolute when fusion has occurred, because whatever color changes, if any, should occur in the ground up tooth body, would also occur in the tooth to which the mass is attached. To make an inlay, the inlay material going into the furnace, and the tooth in which the cavity was ground remaining outside, is an entirely different proposition. Success might attend the effort, and would be proportionately certain or uncertain according to the color which chanced to be used. It is a well known fact that some colors fuse much truer than others.

The Scheme Considered as a Policy.

The fact that Dr. Peck could come to New York and persuade a few dentists to buy a pig in a poke, is a matter of little consequence to the profession elsewhere viewed in the mere abstract. Considered however from the broader standpoint of dental policy, the matter is worthy of some discussion. At the first interview with Dr. Peck he asked "If I have spent a great deal of time and labor and have finally perfected porcelain inlay work, am I not entitled to payment for my time and for my result?" The answer was prompt, "If you speak as a man of commerce, Yes. If you count yourself a professional man, No. You have not invented porcelain inlay work. At best you have only perfected the methods of others. You have not paid these others, your predecessors, for the knowledge which was the foundation of your work, consequently you are entitled to no pay for your improvement on their methods."

This is the professional spirit. To impart knowledge of methods of practice to the end that those who minister to human pain and human ills may be the better prepared to care for suffering humanity. Those who went before us prepared the path and left their records behind. Their knowledge was imparted without fee or reward. Is it a wise act to set a new example now, and hold out the hope that a man who finds a new and better way, or who thinks he has found a new and better way, should rush into some metropolitan center and compel the dentists of that section to buy his secret and give it to the profession at large? This is a question worthy of thought, for this is the second man going about selling a secret under the pretence of instructing a class.

THE EDITOR'S CORNER

With malice toward none, with charity for all

Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.

In our last issue we reported that our patent bill is once more before Congress, and requested our readers to write to Congressmen and Senators urging their support of the bill.

Dental Bills in Congress.

About a hundred dentists have responded to this appeal, some having written to both of their Senators as well as to their Congressmen. We desire to thank these gentlemen for their support which will prove of great assistance. It must not be forgotten, however, that letters of this character reach Senators and Congressmen perpetually about nearly every bill that is at all prominently before Congress, and consequently it is an almost perfunctory matter for the recipients to reply, "I will be glad to give the bill my earnest consideration when reported by the committee." There is the key note. *When reported by the committee.* It is a noticeable fact that we have received scarcely any letters from the members of the patent committees of the two houses. Steps are under way by which it is hoped that the House Committee will

take up the bill during the present month, and it has been decided to urge the bill through the house first. We beg therefore that our readers will write to the members of the House Committee on Patents asking that they favorably report House bill No. 7017. These letters may be written regardless of whether the writer addresses a man from his own state or not. Send duplicate letters to as many members of the committee as time will permit. Send a letter to one at any rate. If a thousand letters of this character would reach this committee during the next ten days, there would be great hope of having prompt and favorable action on the bill. It is not a great trouble. Why not do it? The names of the committees were printed in our last issue.

The Otey bill to permit dentists in the army has been favorably reported by the Military Committee. The bill as originally drawn stipulated that the dentists should be "graduates of standard medical or dental colleges." The committee amended the bill by striking out the words "medical or" in the lines quoted. The significance of this is apparent, and will be appreciated by the dental world.

Arsenic in Pulp Devitalization.

Dr. H. A. Jelly, of Allentown, Pa., describes his method of devitalizing pulps as follows: "I apply the rubber dam, dry out the cavity with hot air, and remove as much of the debris as possible without causing too much pain. If it can be done, I lay bare the pulp, wash out the cavity with alcohol, and dry with warm air. I then take a small piece of muriate of cocaine two-thirds as large as a pin's head and place this on the exposure. Then place a slightly smaller quantity of arsenic paste and flow it over the exposed pulp by the addition of a tiny drop of creosote. Make a concaved disk of base plate gutta percha and cover the dressing, sealing all in with temporary stopping. In twenty-four hours, wash out the cavity with warm water and proceed."

Fillings Close to Pulp Injurious.

Dr. R. H. Hofheinz writes as follows in relation to oxyphosphate fillings: "I believe any filling material close to the pulp, which is not strictly neutral, will kill that pulp in time. A metallic filling will destroy it the more it admits of caloric influence. An oxyphosphate filling will destroy it, owing to the irritating influence of the glacial phosphoric acid, which continues in a milder degree after its incorporation with the oxide of zinc.

I leave out the question of arsenic, which any chemically pure oxide of zinc should not contain. If the oxide of zinc contains arsenious acid in all instances, as it appears according to some writers, it should also destroy pulps when the oxysulphate is used, of which the powder is an oxide of zinc, but the liquid an absolutely neutral one.

The proximity of any pulp should be protected by such neutral a material as oxysulphate of zinc, gutta percha or a reliable coating of a varnish, though the latter is the least reliable."

Dental Poetry.

The following verses were received from Dr. Victor H. Fuqua, of Chicago, who writes that they were composed by one of his little girl patients. As it is well for us sometimes to "see ourselves as others see us" and as the verses are *apropos*, we give them space with the editor's compliments to the young lady.

The Dentist.

(From a patient's standpoint.)

Lurks the Dentist in his lair,
With a wild and woolly glare;
Comes along a little maid,
Timid, shrinking, sore afraid.

Climbs into the fearful chair
(Doctor has her helpless there),
Peers he down her little throat;
Chuckles somewhere 'neath his coat.

Fits her with a rubber mask,
Smiling, smirking o'er his task;
Drills and bores with mighty vim,
Chuckling all the while within.

Pounds and thumps for three long hours,
Maiden weeps a few small showers;
At last she sheds the hateful mask,
Faintly creeps from 'neath his grasp.

Limply, whitely crawls away;
Pa a handsome bill must pay.
Lurks the Dentist in his den,
For his suffering fellowmen.

G. D. W.

Bridge Repair Without Removal.

Dr. Wm. Loewenthal, Hoboken, N. J., writes as follows:

"A few words in reference to an experience in the repair of an extensive piece of bridge work, from which a porcelain bicuspid had been broken off, I presume may be of interest. Instead of adopting the bolt and screw method, which necessitates a perforation of the bar or bridge, thereby weakening same considerably, I drilled a vertical groove into the bridge, countersinking same, into which I slid a Mason crown, and by making a model of the part, the procedure was simplified, thus rendering it especially agreeable to the patient, who by this means escaped the ordeal of fitting."

American Diplomas in England.

WASHINGTON, March 3.—Ambassador Choate will be instructed to call the attention of the British Foreign Office to the discriminations against American dentists in England with a view to having them removed.

Dr. L. J. Mitchell, formerly of Ohio, who is now practising dentistry in London, with his brother, Dr. William Mitchell, called at the State Department today with Representative Lybrand, of Ohio, and told Secretary Hay that since 1893 the British government had refused to register American dentists.

Before that year, he said, graduates of the Harvard and Ann Arbor dental schools had been registered there, but about that time many of the other dental schools in the United States had raised their standard to the same level as Harvard and Ann Arbor and the English authorities thereafter refused to register any American dentists. Secretary Hay said he would instruct Ambassador Choate to endeavor to have the discrimination abolished.—Chicago Chronicle.

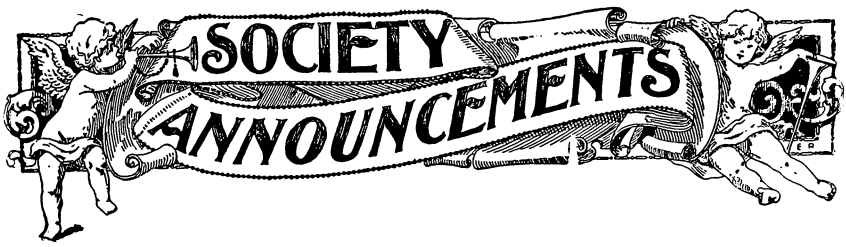
Correction.

To the Editor ITEMS OF INTEREST.

Dear Sir: I note a slight error in my letter entitled "Manual Training in High Schools," page 223, ITEMS OF INTEREST for March. The closing sentence of the third paragraph should read, "and if this course was approved by the regents, a credential covering such a course would be offered." Very truly yours,

JAMES RUSSELL PARSONS, JR.

Albany, N. Y., March 20, 1900.



National Society Meetings.

International Dental Congress, Paris, France, August 8-14.
National Dental Association, Old Point Comfort, July 10.
American Medical Association, Atlantic City, N. J., June 5-8.

State Society Meetings.

Arkansas State Dental Association, July 2.
California State Dental Association, San Francisco, June 19, 20, 21, 22.
Colorado State Dental Association, Boulder, July 10.
Florida State Dental Society, Jacksonville, May 1, 2, 3.
Illinois State Dental Society, Springfield, May 8, 9, 10, 11.
Indiana State Dental Association, Indianapolis, June 19, 20, 21.
Iowa State Dental Society, Dubuque, May 1, 2, 3, 4.
Kentucky State Dental Association, Louisville, May 29, 30, 31.
Maine Dental Society, Brunswick, July 17, 18.
Michigan Dental Association, Kalamazoo, June 11, 12, 13.
Minnesota State Dental Association, Minneapolis, Sept. 5, 6, 7.
Missouri State Dental Association, July 10.
Nebraska State Dental Society, Omaha, May 15, 16, 17, 18.
New York State Dental Society, Albany, May 9, 10.
North Carolina State Dental Society, Greensboro, May 9, 10, 11.
Ohio State Dental Society, Columbus, Dec. 4, 5, 6.
Oklahoma Dental Association, Oklahoma City, May 1, 2.
Pennsylvania State Dental Society, Reading, July 10.
Rhode Island State Dental Society, Newport, July 10.

South Carolina State Dental Association, Harris Lithia Springs, July 10.

Texas Dental Association, Dallas, May 15, 16, 17.

Virginia, Maryland and District of Columbia, Richmond, May 10, 11, 12.

Washington State Dental Society, Spokane, May 17, 18, 19.

West Virginia State Society, Wheeling, Aug. 30, 31.

Local Society Meetings.

First District Dental Society of the State of Illinois, Galesburg, Sept. 28.

Sixth District Dental Society of the State of New York, Binghamton, May 2, 3.

Third District Dental Society of the State of New York, Albany, April 17.

National Dental Association.

To the Members of the National Dental Association:

The annual meeting, which was to have been held at Old Point Comfort, June 26th, has been postponed by vote of the members to July 10th. The partial report from the officers of the various sections indicates an excellent program. Only those persons have been invited to read papers who are specially fitted for the undertaking. The hotels offer their best accommodations at a very low rate; the attendance promises to be large; you cannot afford to miss this meeting. A special feature will be the clinics under the supervision of Section III. Let all the members work to make this a most successful occasion.

Fraternally, B. HOLLY SMITH.

Preliminary Programme of Section VII.—Anatomy, Pathology and Surgery.

The regular subjects, with the essayists who will present them, are selected by the Chairman. Volunteer papers will be read and considered only when there shall be sufficient time after the regular subjects have been disposed of, or when their presentation shall be ordered by vote of the Association.

ANATOMY.

"The Sources of Nutrition of the Dental Pulp," Dr. A. O. Hunt.

"The Evolution of the Bunodont from the Haplodont Forms of Teeth," Dr. A. H. Thompson.

PATHOLOGY.

"The Pathological Changes in Pyorrhea Alveolaris," Dr. M. L. Rhein.

"The Oral Manifestations of Syphilis" (Lantern Illustrations), Dr. W. C. Barrett.

SURGERY.

"The Surgical Treatment of Fractures of the Maxilla," Dr. J. S. Marshall.

"Antiseptic Surgery of the Face and Head," Dr. W. H. Whitslar.

W. C. BARRETT, Chairman.

American Medical Association.

The next meeting of the American Medical Association will be held at Atlantic City, June 5th to 8th, 1900. The Section on Stomatology presents the following programme:

Symposium on

DENTAL EDUCATION.

1. "Relations of Dental and Oral Surgery to General Medicine: Professional Status of Properly Educated Practitioners of Dental and Oral Surgery," Dr. N. S. Davis, Sr.

2. "Preliminary Qualifications," Dr. J. Taft.

3. "Course of Study," Dr. W. A. Evans.

4. "Methods of Teaching" (didactic or recitational), Dr. A. H. Peck.

5. "Shall the Dental Student be Educated Independently of General Medicine?" Dr. G. V. I. Brown.

6. "Is Medical Education a Necessary Qualification for Dental Practice?" Dr. Alice Steeves.

7. "The Practical Value of a Medical Education in Dental Practice," Dr. W. B. Hill.

8. "Technical Training versus Theoretic," Dr. John S. Marshall.

9. "Should the Medical Undergraduate be Instructed in the Principles of Dentistry?" Dr. M. L. Rhein.

10. "Post Graduate Study in Dentistry and Degrees Therefor," Dr. W. E. Walker.

11. "Handwriting Upon the Wall: What Does It Portray?" Dr. A. E. Baldwin.

12. "Limitations," Dr. Eugene S. Talbot.

Symposium on Interstitial Gingivitis or So-called Pyorrhea Alveolaris.

1. "Etiology," Dr. G. Lenox Curtis.
2. "Neurotic Affections," Dr. J. G. Kiernan.
3. "Indigestion Auto-Intoxication," Dr. Eugene S. Talbot.
4. "Chemical Factors in Etiology," Dr. W. L. Baum.
5. "Constitutional Treatment," Dr. J. H. Salisbury.
6. "Local Treatment," Dr. H. H. Fletcher.

GENERAL PROGRAMME.

1. "So-called Glands in the Peridental Membrane," Dr. M. H. Fletcher.

2. "The Evolution of Decay Continued," Dr. Arch C. Hart.

3. "Co-operation of the Public Schools in Teaching. Good Teeth, Good Health. Whatever we Wish to See Introduced Into the Life of a Nation Must be Introduced Into Its Schools," Dr. Richard Grady.

4. Subject to be announced. Dr. V. A. Latham.

The Section on Stomatology will meet at Hotel Senate. The officers of the Section invite all to be present and to take part in the discussions.

Those who wish to join the Association must obtain credentials from their state or local dental societies, and the payment of $5.00 to the Secretary of the Association. This will entitle them to the Journal for one year.

Accommodation can be had by writing F. B. Cook & Son, Hotel Senate.

EUGENE S. TALBOT, Secretary, Section on Stomatology.

Illinois State Dental Society.

PROGRAMME.

1. President's Address, Dr. R. N. Lawrence, Lincoln, Ill.

2. Report of Committee on Dental Science and Literature, Dr. A. W. Harlan, Chicago, Ill.

3. Report of Committee on Dental Art and Invention, Dr. H. J. Goslee, Chicago, Ill.

4. "Gold Crown With Solid Carved Cusps," Dr. J. E. Nyman, Chicago, Ill.

5. "A Few Thoughts on Prosthetic Dentistry," Dr. W. W. Moorhead, Aledo, Ill.

6. "Simple Method of Treatment of Fractures of Lower Jaw," Dr. W. A. Johnson, Peoria, Ill.

7. "Calcification a Controlling Factor in the Treatment of the Teeth," Dr. Crafton Monroe, Springfield, Ill.

8. "Habits Incident to the Dental Profession," Dr. G. W. Ensminger, Carbondale, Ill.

9. "Electricity Through the Ages and Its Future With Regard to Dentistry," Mr. J. A. Lob, M.E., Chicago, Ill.

10. "Pyorrhea Alveolaris, so called," Dr. A. H. Peck, Chicago, Ill.

11. "Operative Dentistry." A—"To Emphasize Some Things in Operative Procedures," Dr. D. M. Cattell, Chicago, Ill. B—Paper; subject to be announced, Dr. Edmund Noyes, Chicago, Ill.

It is expected that Dr. Black will open the discussion on both of these papers. The discussion on this subject not to be confined strictly to the papers read.

12. "Antiseptics," Dr. Elgin McWhinny, Chicago, Ill.

13. Report of Supervisor of Clinics, Dr. A. J. Hinkins, Chicago, Ill.

Kentucky State Dental Association.

The thirtenth annual meeting of the Kentucky State Dental Association will be held in Louisville beginning May 29, 1900, at 9 a. m., and continuing three days.

Preliminary Announcement—Papers.

1. "Some Advantages of Non-Cohesive Gold, Tin-Gold and Tin Considered from an Operative and Prophylactic Standpoint," Dr. J. R. Clayton, Shelbyville, Ind.

2. "Amalgam. Its Preparation, Instruments and Instrumentation in Filling Teeth. Illustrated by Models." Dr. W. E. Harper, Chicago, Ill.

3. "Oral Manifestations of Syphilis," Dr. T. C. Evans, Louisville, Ky.

4. "X-Rays in Dentistry," Dr. L. E. Custer, Dayton, Ohio.

5. Subject to be given, Dr. S. A. Donaldson, Lexington, Ky.

6. "Malaria as a Cause of Secondary Hemorrhage in Extraction of Teeth," Dr. J. P. Shaw, Russellville, Ky.

7. "Orthodontia." Illustrated by lantern. Dr. C. DeWitt Lukens, St. Louis, Mo.

8. "Orthodontia," Dr. E. D. Rose, Bowling Green, Ky.

9. "One of the More Especial Duties of the State Dental Association," Dr. J. L. Sutphin, Greensburg, Ind.

10. "Care of Deciduous Teeth," Dr. J. F. Meadors, Columbia, Tenn.

11. Subject to be given, Dr. I. B. Howell, Paducah, Ky.

12. "Dental Education," Dr. Theo. Menges, Chicago, Ill.

13. "Practical Dentistry," Dr. E. T. Barr, Bowling Green, Ky.

14. "Troublesome Cases in Bridge Work via Converging Teeth, Broken Facings, Mal-Occlusion, etc.," Dr. U. D Hulick, Cincinnati, O.

15. "Teeth," Dr. W. S. Williams, Uniontown, Ky.

16. Metallo-Plastic Work and Backing Porcelain Teeth with Gasoline," Dr. R. C. Brophy, Chicago, Ill.

17. "The Status of Mechanical Dentistry. Is it to Become a Lost Art?" Dr. O. G. Wilson, Franklin, Ky.

18. "Disease of the Antrum," Dr. Adolph O. Pfingst, Louisville, Ky.

19. "The Reproduction of Gum Tissue in the Inter-Proximal Space," Dr. Geo. T. Carpenter, Chicago, Ill.

20. Subject to be given, Dr. J. H. Baldwin, Louisville, Ky.

21. Subject to be given, Dr. A. H. Peck, Chicago, Ill.

22. "The Importance of Proper Physical Diagnosis in the Practice of Dental Surgery," Dr. J. Y. Crawford, Nashville, Tenn.

23. "Gold Filling vs. Gold Crowns," Dr. W. T. McLean, Cincinnati, Ohio.

24. "Antiseptics and Disinfectants," Dr. Geo. W. Cook, Chicago, Ill.

25. "What Efforts Are We Using to Better the Profession?" Dr. M. H. Dailey, Paris, Ky.

26. "Cast Aluminum Dental Plates," Dr. Willard Streetman, Cleburne, Texas.

Clinics.

1. "Oral Surgery," Dr. Wm. H. G. Logan, Chicago, Ill.

2. "A Method of Backing up Porcelain Crowns," Dr. E. D. Rose, Bowling Green, Ky.

3. "Removal of Dental Pulp Surgically," Dr. J. Y. Crawford, Nashville, Tenn.

4. "Soft Gold Filling," Dr. P. A. Pennington, Louisville, Ky.

5. "Metallo-Plastic Work and Backing Porcelain with Gasoline," Dr. R. C. Brophy, Chicago, Ill.

6. "A Compound Gold Filling, Crown and Posterior Proximal with Matrix. A Combination of Old and New Methods." Dr. B. Oscar Doyle, Louisville, Ky.

7. "Porcelain," Dr. H. J. Goslee, Chicago, Ill.

8. "Immediate Nerve Extraction with Eucaine by Pressure and Root Filling," Dr. S. A. Donaldson, Lexington, Ky.

9. "Orthodontia," Dr. C. DeWitt Lukens, St. Louis, Mo.

10. "De Tray's Gold," Dr. C. K. Runyon, Jeffersonville, Ind.

11. "Orthodontia and Exhibit," Dr. Frank L. Smith, Chicago, Ill.

12. "Contour Fillings with Soft Gold on Models," Dr. G. S. Junkerman, Cincinnati, Ohio.

13. "The Use of Snow Face Bow in Taking a Base Plate Bite," Dr. J. Q. Byram, Indianapolis, Ind.

14. Subject to be given, Dr. H. B. Tileston, Louisville, Ky.

15. "Non-Cohesive Gold, Tin and Tin-Gold on Models," Dr. J. R. Clayton, Shelbyville, Ind.

16. "A Few Cases in Orthodontia," Dr. J. S. McClurdy, Fort Wayne, Ind.

17. "Soft Gold Filling," Dr. Henry Pirtle, Louisville, Ky.

18. Subject to be given, Dr. W. E. Grant, Louisville, Ky.

19. "Combination Gold Filling," Dr. E. L. Sanders, Louisville, Ky.

20. "Open-Faced Crowns," Dr. B. G. Reese, Louisville, Ky.

21. "Extraction of Teeth Under Local Anæsthesia," Dr. F. R. Wilder, Louisville, Ky.

The following gentlemen will give clinics, subjects to be stated:

Dr. G. C. Roberts, Chicago, Ill.

Dr. F. L. Klingman, Louisville, Ky.

Dr. W. W. Barnes, Louisville, Ky.

Dr. A. B. Weaver, Louisville, Ky.

Twelve firms have secured space for displays.

The committee, in addition, have under arrangement other important clinics and are making strenuous efforts to make this the best meeting ever held in the state and well worthy of your attendance.

Members of the profession are cordially invited.

213 West Chestnut Street. F. I. GARDNER, D.D.S., Secretary.

Nebraska State Dental Society.

The twenty-fifth annual meeting of the Nebraska State Dental Society will be held in Omaha, May 15-18, 1900.

Omaha, Neb. LEAH MILLS, Cor. Sec'y.

National Association of Dental Examiners.

In consequence of a contemplated new movement by the Association, with the probability of considerable benefit both to the State Boards and the more advanced colleges whose educational standards are high, the Secretary most earnestly requests from the officers and members of the several State Boards in the United States and Territories, a new list of officers and members.

An early compliance with this request will be most heartily appreciated.

CHARLES A. MEEKER, D. D. S., Secretary.
29 Fulton Street, Newark, N. J.

New York State Dental Society.

The thirty-second annual meeting of the New York State Dental Society will be held in the New Centennial Hall, corner Lodge and Pine Streets, Albany, N. Y., May 9 and 10.

PROGRAMME.

President's Address, F. Le Grand Ames, D. D. S.
Correspondent's Report, R. Ottolengui, M. D. S.
Report Committee on Practice, H. D. Hatch, D. D. S.
Essay, F. J. Capon, D. D. S., Toronto.
Essay, Joseph Head, D. D. S., Philadelphia.
Essay, Edward C. Kirk, D. D. S., Philadelphia.
Essay, S. B. Palmer, M. D. S., Syracuse.
Essay, Charles H. Barnes, D. D. S., Syracuse.
Essay, Milton F. Smith, D. D. S., New York.

F. LE GRAND AMES, D. D. S., President, Albany, N. Y.
W. A. WHITE, D. D. S., Secretary, Phelps, N. Y.

Sixth District Dental Society of the State of New York.

The thirty-second annual meeting of the Sixth District Dental Society of the State of New York will be held at the Hotel Bennett, Binghamton, on Wednesday and Thursday, May 2 and 3, 1900.

FREDERIC W. MCCALL, Secretary.
Binghamton, N. Y.

Missouri Dental Association.

The thirty-sixth annual meeting of the Missouri Dental Association will be held at Louisiana, Mo., July 10, 11, 12, 13, 1900. A cordial invitation is extended to all reputable dentists to attend.

B. L. THORPE, Secretary.

St. Louis, Mo.

Southern Wisconsin Dental Association.

The sixth annual meeting of the Southern Wisconsin Dental Association will meet at Janesville, May 2 and 3, 1900.

J. H. REED, Secretary.

Lancaster, Wis.

Iowa State Dental Society.

The next annual meeting of the Iowa State Dental Society will be held at Dubuque, May 1, 2, 3, 4. A good programme has been arranged, and all reputable dentists are invited to be present.

I. C. BROWNLIE, Secretary.

Ames, Iowa.

Vermont Board of Dental Examiners.

A meeting of the Vermont Board of Dental Examiners will be held at the Bardwell House, Rutland, Wednesday, May 23, 7:30 p. m., for the examination of candidates to practice dentistry.

The examinations will be in writing and include Anatomy, Physiology, Chemistry, Metallurgy, Pathology, Therapeutics, Surgery, Materia Medica, Anesthesia, Operative and Prosthetic Dentistry, together with an operation in the mouth.

Candidates must come prepared with instruments, rubber dam and gold.

Applications, together with the fee, ten dollars, must be filed with the Secretary on or before May 10.

GEO. F. CHENEY, Secretary.

St. Johnsbury, Vt.

Texas Dental Association.

The next annual meeting of the Texas Dental Association will be held in Dallas, May 15, 16 and 17. Reduced railroad rates have been secured within the state, and a large attendance is expected. The profession is cordially invited.

J. G. FIFE, Secretary.

Dallas, Texas.

Tri-Union Meeting.

The Virginia State Dental Association, the Maryland State Dental Association and the District of Columbia Dental Society will hold their fourth tri-union meeting in Richmond, Va., May 10, 11 and 12.

H. J. ALLEN, Secretary.

421 H Street, N. E., Washington, D. C.

British Columbia Board Dental Examiners.

The following qualifications are requisite for candidates who desire examination by the British Columbia Board Dental Examiners:

A diploma by some dental college recognized by the American Association of Dental Faculties, and also examination on the following subjects, both oral and written, viz.: Prosthetic and Operative Dentistry, Metallurgy, Crown and Bridge Work, Anatomy, Physiology, Therapeutics, Chemistry, Materia Medica, Pathology, Anesthetics and Oral Surgery.

Besides the applicant will be required to do the following work in the mouth, and in duplicate, viz.: A full and partial denture (vulcanite, not less than four teeth), Continuous Gum Denture, Porcelain Inlay, Bridge (not less than four teeth), and Gold Crown.

The examinations are held semi-annually in Victoria, beginning on the third Saturday of May and November each year.

Applicants are required to furnish patients, materials, instruments and make application at least one month before the regular meeting of the Board.

A. C. WEST, Secretary.

Connecticut Dental Commission.

At the last meeting of the Dental Commissioners of Connecticut it was voted that, after January 1, 1900, every applicant for license, whether graduate or non-graduate, be required to pass a thorough examination, both theoretical and practical, the details of which shall be arranged later, and that all rules conflicting therewith be and are hereby repealed.

The Recorder was requested to devise some plan whereby operations can be performed by applicants upon patients before the Commissioners.

Full particulars as to the required examination will be given each candidate as soon as possible before the next examination, which will be held Monday, May 14, 1900, at the Capitol in Hartford. It must be distinctly understood by all applicants who receive a temporary permit after January 1, 1900, that the examination passed to obtain the same does not exempt them from passing the regular examination for license at the next meeting of the Commission.

GEO. L. PARMELE,
Dental Commissioner and Recorder.

Hartford, Conn., January 1, 1900.

Oklahoma Dental Association.

The eighth annual meeting of the Oklahoma Dental Association will be held in the parlors of the Grand Avenue Hotel, Oklahoma City, May 1 and 2.

An interesting programme, with numerous good clinics, will be carried out, and every effort made both to entertain and benefit those present. The profession is cordially invited to attend. Secure receipts for transportation in order to get reduced rates.

J. D. GAGE, Secretary.

Stillwater, O. T.

Chester and Delaware County Dental Society.

The Chester and Delaware County Dental Society held their annual meeting in January at Media, Pa., and elected the following officers: Dr. Scott, President; Dr. Campbell, Secretary; Dr. Smedley, Treasurer; Dr. Shaler and Dr. Bernard, Executive Committee.

Southern Minnesota Dental Society.

The Southern Minnesota Dental Society meets at Mankato, Minn., April 10, 11 and 12. The work this year will be of a post-graduate nature on Operative Dentistry, conducted by Dr. C. N. Johnson, of Chicago.

A. C. ROSENQUIST, Secretary.

St. Peter, Minn.

Ohio State Board of Dental Examiners.

The next meeting of the Ohio State Board of Dental Examiners will be held at the Chittenden Hotel, Columbus, O., beginning Tuesday, May 29.

Examinations will be both theoretical and practical. Applicants are requested to bring instruments, rubber dam, filling materials, etc., necessary for making fillings, or doing such other work as may be requested. Engines will be supplied by the Board.

For further particulars, or application for examination, write to

L. P. BETHEL, Secretary.

Kent, O.

Illinois State Board of Dental Examiners.

The next regular meeting of the Illinois State Board of Dental Examiners will be held in Chicago, May 3, 4 and 5, at the Chicago Business College, 67 Wabash avenue. Applicants must come prepared with instruments and material to do some practical work. Those desiring to take the examination should notify the secretary ten days before the date of meeting.

J. H. SMYSER, Secretary.

70 State Street, Chicago, Ill.